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Electronic Entertainment

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And 13 More Hot Game Reviews

**EDITORS'
CHOICE
AWARDS**

Games, Gear &
Multimedia!

An IDG Communications Publication

March 1994

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To read Kasparov's mind, simply refer to the second board.



Ready to raise your game to a higher level, are you? Meet Garry Kasparov, reigning king of the

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suggests.

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There's even a **second** board, which allows you to **visualize the** strategies Kasparov



[AFTER]

**YOU DON'T BECOME
WORLD
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OVERNIGHT.
IT MAY TAKE YOU
A COUPLE WEEKS.**



Gambit's engine won the world
title, so watch your step.



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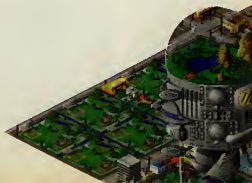
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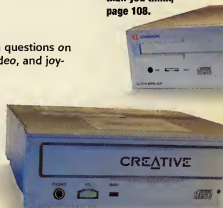
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Smart answers to tough questions on device drivers, better video, and joystick button sorrow.

Finding the right CD-ROM is easier than you think, page 108.



Harsh City was supposed to take off into space. But it didn't, page 67.





Editor's Page

Gina Smith

Rock 'n' Roll

So you wanna be a rock 'n' roll star? Take a number, baby. Practically everyone who grew up listening to an FM rock station has dreamed of it. Including me.

But for the vast majority of us, it's just a fantasy. Sure, we dance and play air guitar along with the music, even shout along with the lyrics in the car, but we don't make the music. That's some else's job.

But as contributing editor Charles Bermant reports in "Take Control of Rock 'n' Roll," interactive rock 'n' roll from such stars as Todd Rundgren, Thomas Dolby, and Peter Dinklage is changing all that. These new discs actually let you control how their tunes look and sound. Other titles let you make your own rock from scratch, or use multimedia to upgrade the liner notes on your old LPs. Find out what jams and what's junk on page 46.


Of course, a few odd souls didn't want to be rock stars—they wanted to be movie stars and film directors. Our insatiable Multimaniac Paul Bonner learns that the computer can help there, too. "How I Became a PC Movie-maker," on page 74, demonstrates that just about anyone can now make their own videos.

It's been said that moviemakers play God, and if that's your goal, check out what you can do in *SimCity 2000*. Caleb Clark turned three creative types loose with this hot new city-simulation tool, and each one created a stunningly beautiful city that accurately reflects their personality.

To create the mountainous eco-paradise of *Christon*, the austere geometric beauty of *Mattropolis*, and the relentless drive for the future in *Harsh City*, our three testers spent hundreds of hours building, tearing down, and rebuilding their personal visions. For a unique—and gorgeous—look at the limitless possibilities in this pace-setting game, check out "A Tale of Three Cities," on page 67. You won't see anything like it anywhere else.

You also won't see anything like *The First Electronic Entertainment Editors' Choice Awards*. We sifted through hundreds of products to come up with the top products of 1993. We picked winners in 11 key categories, from Best Multimedia Title to Breakthrough Hardware. Each one demonstrates a special level of technological achievement, solid value, and just plain fun that sets it apart from the competition. Get to know the winners on page 61.

To find out what's coming later this year, take a look at *Sharp Edge* for the inside scoop on *BioForge*, *Virtual Guitar*, 3DO peripherals, and much more. Spotlight reviews hot MIDI keyboards, Mac joysticks, and dating software. There's even help for comparison shopping CD-ROM encyclopedias.

And don't forget *State of the Game's* 14 reviews of top PC, Mac, and 3DO games including *Star Trek*, *IndyCar Racing*, *ChessMaster 4000*, and the interactive movie *Critical Path*, beginning on page 79. If that's not enough, *Tech Shop*—beginning on page 108—delivers expert advice on the latest CD-ROM drives, a shopping list for the best multimedia PC, and hands-on help with an attitude. 

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First Look

Wow! It's a spiffy looking pub you've got there. I'm impressed. Wowed even. Very high class.

Derek Slater
Framingham, Massachusetts

Since *Electronic Entertainment* is so new, you should keep in mind the little guys—those companies just entering the market—instead of the monster corporations that are already household names. They get enough coverage as it is with all those computer magazines. The little guys have some good stuff, too.

Teri Liston
San Carlos, California

I just received the premiere issue of *Electronic Entertainment*. You've done a way beyond excellent job with this first issue. I didn't see anything on OS/2 Lite—and that makes me very happy.

Michael Drips
Brandon, Florida

E2, Née PC Games

I was a little confused at first when I received my first issue of *Electronic Entertainment* because I sent out my *PC Games* subscription card in August. But I like E2, mainly because of its diversity. I use both PCs and Macs, so now I can just look at your magazine and know what's going on in the whole multimedia industry. Cool!

There is one question: When I subscribed to *PC Games*, it was \$19.95 for 8 issues. How about E2?

JaYan Xiang
Via Internet

As a *PC Games* subscriber you will receive 12 issues of *Electronic Entertainment* for the same price. —Ed.

A Box for the Rest of Us?

I just read your premiere issue and was pretty impressed by the overall quality. While reading the 3DO review ("3DO: A First Look at the Games," January, page 67)

an idea struck: Why not 3DO on a card for the PC and Mac? They could sell it in two versions—one with the CD drive for those who don't have one yet and one without the CD for those who do.

Surely the unit could sell for far less than the standalone boxes. Besides, the 3DO card could use the computer's hard drive and floppies to store saved game information. From a money standpoint, it's an idea that certainly makes more sense than the standalone unit.

Paul Thurnott
Scottsdale, Arizona

We agree. Are you listening, 3DO? —Ed.

S.O.S. Tells It Like It Is

Your Tech Shop S.O.S. (January, page 134) is a real hoot! I loved the comment "Nothing really 'runs' under Microsoft Windows. A brisk walk is about all you can hope for." There were a bunch of other comments that showed you're pulling no punches. You know, it really figures, first I buy

a house, then it's ski season, and you guys have to come along and send me this magazine with so many great toys in it.

I was also drooling over the Mark II Weapons Control System ("The Joy of Sticks," January, page 126)—pricey, but ooh, that looks fun. I guess I need a subscription so I can keep on drooling. I need to win the lottery, too, in order to avoid bankruptcy from too many toys.

Rene Churchill
Lowell, Massachusetts

Complicated Games

It's nice to see a magazine that caters to the upper spectrum of gaming and leaves out the 16-bit generation. I especially enjoyed the article written by Nolan Bushnell ("King Pong" January, page 140)—there was a lot of truth to it.

Games are getting more complex while the

systems are getting more complicated. I work for a major software retailer, and I know how bad it's getting. More people are buying computers, but they're in the dark about their systems. Have you ever tried to explain to someone why their new game won't run because they don't have enough conventional memory freed up? When they have trouble they don't call the computer manufacturer—they call me, the software retailer.

Pat Chard
Via America Online

The choices I make as I'm playing role-playing games are quite unrealistic and removed from everyday logic. In one case, the choices were so arcane that they demanded either immediate purchase of hint books or a phone call to a gaming hotline. Of course, I could just use cheaper software and never have to decide what to do again.

Paul Chance
Portland, Oregon

You know what frustrates me? Games that tax my energies by forcing me to find every little secret clue to make any progress. I prefer the straightforward, arcade-style games that I can just sit down and play without having to figure it out in advance. How about it?

Phil Harrington
Watsonville, California

An Idle Revolution

The problem with the computer entertainment industry is that it's bent on exploiting its market. I'd like to see the industry give something back, whether it be intellectual, emotional, or spiritual content of some value, or at the very least, great-looking graphics and hot sound.

I've been hearing a lot of talk about what's coming for the last couple of years—I'm still just hearing talk, and seeing crap. Wake me up for the revolution.

Robert B. Gelman
Moss Beach, California

Got something you want to get off your chest? Do it! Write, fax, or e-mail us at: *Letters to the Editor*, c/o *Electronic Entertainment*, 951 Mariner's Island Blvd., Suite 700, San Mateo, CA 94404; fax: 415-349-7781; MCI ID: 619-7340; and *CompuServe*: 73361, 265.

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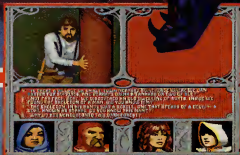
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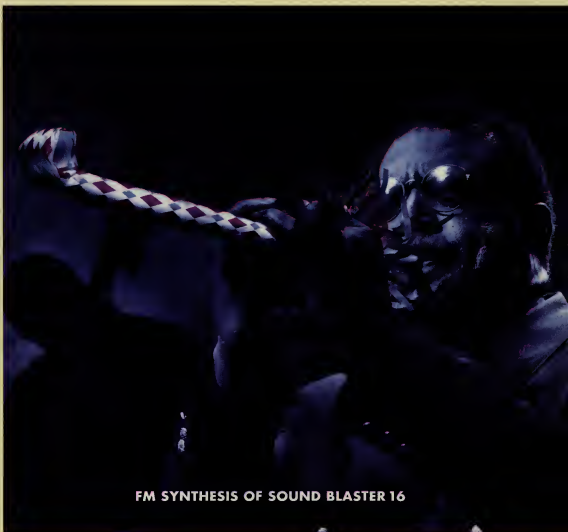
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great wavetable sound out of hat games like X-wing, 7th Guest, Doom and

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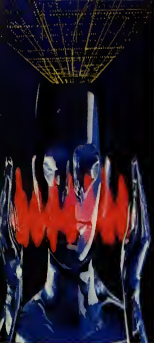
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SHARP

EDGE

3DO Gets New Feelers

Playing a flight sim with 3DO's standard control pad is a lot like driving nails with a wrench: It's the wrong tool for the job. But 3DO multiplayer will be able to break out of their control pad rut pretty soon.

Input-hardware maker Logitech and joystick maker CH Products are just two of the companies reportedly building alternative input devices for the box that'll help players get the most from their software. Insiders say CH Products is working on a

3DO version of its **Flightstick Pro** that's scheduled to hit the shelves early this year. In fact, CH engineers have been working with 3DO to establish a standard interface for such multibutton controllers as the Flightstick Pro that will even include tactile feedback.

Meanwhile, Logitech says it wants to produce a 3DO peripheral in time for the '94 holiday season. Though Logitech isn't saying exactly what type of device it's building, 3DO clearly needs a mouse-like peripheral better suited to controlling edutainment and informational software than the current control pad. A 3DO version of Logitech's 3-D CyberMan, perhaps?

— Christopher Lindquist

PHOTOGRAPH OF 3DO BY DAN CLARK, LOGITECH FLIGHTSTICKS BY HANK SKELES/ASIM/IMAGE BANK



To the Moon, Cyborg

Don't you just hate it when you wake up on the operating table and find out that some fanatical cult has turned you into a cyborg—half man, half machine—and taken your memory for good measure? If you want to play **BioForge** from Origin Systems, that's where you'll start the game—on a table, on a moon, circling some faraway star.

The 3-D rendering used for the moon base and the charac-

ters is spectacular. Plus, Origin has used a motion-capture system and a proprietary "skeletal" animation method to create realistic movement for the character you play. That means your cyborg character has a full range of smooth motions as you control his actions and attempt to escape the fanatical Mondites and the evil Dr. Mastaba.

BioForge is what the people at Origin call their first inter-

active movie, but it's light on dialogue and heavy on exploration and action. During the game, you'll encounter a variety of enemy creatures and robots. If you can think and react quickly—using brain or brawn—you may just make it to safety. And if you're lucky, you'll remember who you are. (Origin Systems; 800-245-4525; DOS, \$79.95)—*Russel DeMaria*





Lloyd, your musical mentor, can show you the ropes...if not the chords.



Jam your way to the top on the Virtual Guitar.

Polyester Lounge Lizards

Why play air guitar when you can hold a real axe in your hands? A new title called *Virtual Guitar* lets your rock 'n roll fantasies come true. The first instrument in Ahead's Virtual Music line of games and instruments, this title makes musicians out of game players—and the other way around. Just plug it into your PC and play your way to the top in the first game, *Virtual Music Quest for Fame*. Jam through club dates, auditions, and recording contracts. You control the rhythm and beat with your strumming and picking. Don't worry about hitting the right notes—the right rhythm is all you need. But lose it, and you'll find yourself in the Polyester Lounge. Full-motion video, animation, stereo sound, and the occasional appearance of a major band or two make the live-performance experience all the more real. More skillful musicians can break away from the band and improvise arrangements. Extensions for virtually any music category, production capabilities, and karaoke are available. The jam session starts later this year. (Ahead; 617-969-3195; CD for DOS/Windows, \$36.95 to \$99.95 per game; \$69.95 per instrument)

—Sarah Tilton



Don't lose the tempo, or you could end up playing with the likes of Copa Costanza in the Polyester Lounge.

Dickensian Drama

Experience the drama of 19th-century England through the eyes of Charles Dickens. An upcoming CD-ROM title from the Bureau of Electronic Publishing, **Like the Dickens**, will combine his best works with multimedia explorations of the master storyteller's life and times.

This CD-ROM will include full-length versions of many of Dickens's classic novels, including *Oliver Twist* and *A Tale of Two Cities*, as well as his plays, poems, articles, and short stories. The title will also feature videos of theatrical performances, interviews with noted Dickensian scholars, and a glossary that explains obscure Victorian terms.

Expect to visit this spectrum of London street life and colorful Dickensian characters late this spring. (Bureau of Electronic Publishing; 800-828-4766; CD for Windows/Mac, price unavailable)

—Donna Meyerson



Reap a Grim Harvest

Take a David Lynch-style plot, add some splattering blood, throw in a chainsaw, and you've got Future Vision's *Harvester*, one of the most violent new games we've ever seen. Whether it intrigues or disgusts you, this small-town-gone-weird hackfest lets you play a 17-year-old amnesia victim who wakes up in *Harvest*, a town with an unholy focus on the local lodge. And the only way you're going to leave town alive is to join. (Future Vision; 800-238-4277; CD for Windows, \$69.95)

—Christopher Lindquist



It's Greek to Me

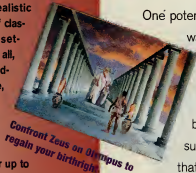
Embark on an epic journey through ancient Greece with your CD-ROM drive. In *Wrath of the Gods*, an upcoming adventure game from Luminaria, you play a prince who was abandoned in infancy and raised by a centaur. Like Odysseus, you must survive encounters with mythological creatures and



Prove your identity or be prepared to quaff Medea's poison.

ancient gods while solving puzzles and dilemmas to prove yourself and regain your birthright. The game mixes live video footage featuring more than 60 actors with photorealistic renderings of classical Greek settings. Best of all, instead of ending the game, an untimely death sends you spinning down into Hades or up to Mount Olympus for even weirder adventuring. (Luminaria; 415-821-0536; CD for Windows/Mac, \$69.95)

—Beth Cataldo



Is There a PowerPC in Your Future?

If Apple does what it says it's going to do, **PowerPCs** should be hitting the market in full force by the time you read this. But don't chuck your old Mac or IBM-compatible out the window just yet: Exactly which multimedia titles and games will be running on this new platform remains to be seen.

If you don't already know what a PowerPC is, you will. These are Macs (and soon, PCs) with Motorola's new PowerPC chip at their heart. These systems

hold a lot of promise: low cost, performance that blows away even Pentium-based systems, and the ability to run software designed for DOS, Windows, Mac, Unix—even OS/2—on one box. Whether these are more than empty promises will become clear once PowerPC-based systems start booting up around the country.

One potential disappointment is in software compatibility and its hit on performance. Sure, DOS and Windows titles may be able to run on the PowerPC, but it'll be running them on a supplied "emulator." That means that they won't enjoy the supersonic speed that native PowerPC

apps will enjoy—IBM admits they'll run only as fast as a midrange (read: 33MHz) 486 PC. And while many of the newest Macs will let you upgrade to the PowerPC chip, you'll still have to be sure your hardware, such as printers and network cards, is PowerPC-compatible. If it isn't, you could be in for some expensive upgrades.

On the plus side, Apple is promising to offer cheap PowerPC deals. Its 60MHz entry-level system will cost

around \$2,000 for 8MB RAM, a 160MB hard disk, and a Quadra 610-style box. The midrange system will feature a Quadra 650-type box with a 66MHz CPU, 8MB RAM, three NuBus slots, and a 230MB hard disk for approximately \$3,000. And around \$5,000 will buy you the top-of-the-line 80MHz PowerPC—with 8MB or 16MB RAM, a built-in CD-ROM drive, and a 500MB or 1GB hard disk in a Quadra 800 design.

Betting on a new platform is always risky. But if you're really desperate to be on the bleeding edge, keep an eye out for PowerPC Macs and PCs as they hit the market throughout the year.

—Christopher Lindquist



INTERPLAY'S 10 YEAR ANTHOLOGY

CLASSIC COLLECTION



Ten years in the making, but available for a very limited time. The Classic Collection contains ten extraordinary DOS games from the ten most exciting and influential years in computer game development from Interplay. And they're all together—on one CD-ROM. These are the games that not only won *your* respect, but the attention and accolades of computer game critics all over the world. The games that made history. The games no gamer should be without.



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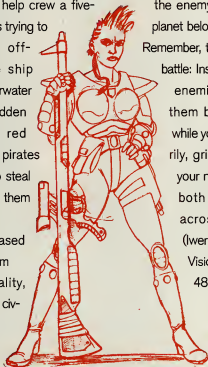
Circle 184 on Reader Service Card

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A Kinder, Gentler Virtual Reality

Hazardous simulated adventure is what virtual-reality centers are all about, but there are two new games that steer clear of the typical search-and-destroy approach. In the **Loch Ness game**, one of Iwerks Entertainment's Virtual Adventures, you help crew a five-person ship that's trying to save Nessie's offspring. As the ship maneuvers underwater searching for hidden eggs, you lob red paint at greedy pirates who are trying to steal the eggs and sell them to evildoers.

In headset-based **Cybergate** from Visions of Reality, you're of the Plox civ-



ilization, which is competing against the Shandari race to reach the only habitable planet left in the universe now that over-industrialization and constant warfare have destroyed yours.

Reach the Cybergate before the enemy, and the new planet belongs to your people. Remember, this is a race, not a battle: Instead of killing your enemies, you just push them back a few miles, while you zoom along merrily, grinning as you eye your new home. Look for both games in malls across the country. (Iwerks, 310-473-4147; Visions of Reality, 800-487-6634)

—Beth Cataldo

Despite the big guns, Cybergate avoids killing.

Survival Of the Fittest

With Earth on its last breath, it's up to you to move the human race somewhere else. **Outpost** puts you in charge of the latest nuclear fusion space-exploration technology, your only hope for survival. With this technology, you can discover new worlds and rebuild human civilization. But the odds are against you. Not only are most available

planets incredibly hostile, but you'll need to perform genetic re-

search and develop some serious nanotechnology to complete your mission. If you're up to the challenge, look for **Outpost** on a planet near you late this spring. (Sierra On-Line; 800-757-7707; CD for Windows, \$89.95)

—Donna Meyerson



PC Pumping

Are you a 97-pound nerd? Well, now you can stay in shape even if you can't tear yourself away from your computer. **ExerCitement** is a gimmick that connects any piece of home exercise equipment to your PC. Using an array of velcro straps, buttons, and infrared sensors to track where you're going and how fast you're pumping, the system feeds the data into an arcade-style game on the computer screen. You can take giant robot steps across a lunar landscape, jog gently through Central Park, or try out several other exercise routines. Earn points by moving faster, avoiding obstacles, and knocking over competitors.

With a little perseverance, who knows? Pretty soon you'll be able to kick sand in a mainframe's face. Upcoming this year are two new games, a head-to-head race across America and a 3-D flight simulation. Also in the works are plans for Computer Athlete hardware that will adapt to game decks from Sega, Nintendo, and 3DO. (Computer Athlete; 800-860-4506; DOS, \$159.95)

—Cate Bavelas



THE LOCALS WOULD LIKE TO HAVE YOU FOR LUNCH.

The good news is you survived the plane crash. The bad news is you're on the Isle of the Dead.

Now, as you search for survival items and a way off the island, you face a horrifying assortment of flesh-eating zombies, hideous bats, blood-thirsty wolves and other unsavory locals. Can we help it if the press is calling it "gory," "gruesome," "graphic" and "sickening?"

You'll traverse dense jungles, treacherous caves and explore the local village to unlock riddles that could aid your escape. And if you're lucky, you may even rehabilitate a beautiful zombie babe.

But don't forget to keep an eye out behind you. Because on the Isle of the Dead, you're on the menu!

See your dealer
or call today!

**ISLE OF THE
DEAD**

WARNING: This game depicts scenes of graphic violence.



"Big, bright, oh-so-gruesome graphics... enough blood and gore to make even George Romero blanch. A real tongue-in-cheek, teeth-in-flesh kind of adventure."

PC Entertainment, October, '93



"Definitely not for the faint-hearted. Sampled realistic sounds add to the sickening, bloody atmosphere."

VideoGames
September '93



"Brings new meaning to the term 'graphic adventure.'"

PC Entertainment
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Merit Software

**ISLE OF THE
DEAD**

13707 Gamma Road • Dallas, Texas 75244 • 214-385-2353

IBM 3.5" HD disks. Minimum requirements: 386 PC or 100% compatible, 4MB RAM, DOS 5.0 or greater, hard drive and VGA graphics. Sound support: Sound Blaster and compatibles. ©1994 Merit Software.

Circle 82 on Reader Service Card

Teens Stars Turn to Games



Eddie (Haim) faces a new kind of trouble in *Double Switch*.

Where have all the teen stars gone? Look no farther than your nearest computer game. If once-young

actors Kirk Cameron, Jason Hervey, and Corey Haim are any example, the clear trend is for aging teen stars to extend their careers by starring in games.

Kirk Cameron (Mike Seaver on "Growing Pains") experiences a new kind of pain in his lead role of Chauncey in **The Horde** (Crystal Dynamics; 415-858-4990; 3DO/DOS/CD for DOS, \$59.95). Jason

Hervey (Wayne Arnold on "The Wonder Years") makes his game debut in

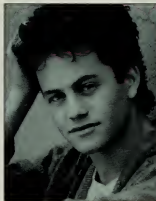
Return to Zork

as the outrageous Troll Leader. The new Zork also stars actress Robin Lively (of "Twin Peaks" and "Young Indiana

Jones") as the fairy (Activision; 800-477-3650; DOS/CD for DOS/CD with ReelMagic MPEG for DOS, \$79.95). And Corey Haim (*The Lost Boys*) stars along with Blondie's Debbie Harry in **Double Switch**, an intriguing mystery full of traps, secrets, and deceptions. (Sega of America; 800-872-7342; Sega CD, \$59.99)

But why stop there? We had no trouble coming up with five more potential comput-

er games that could be havens for maturing kid stars.



Kirk Cameron



Jason Hervey



Corey Haim

1. Shannen Doherty (Brenda on "Beverly Hills, 90210") in *Where in Hell is Carmen Sandiego?*

2. Joey Lawrence (Joey on "Blossom") in *Prince of Persia 3: The Chest and the Hair*.

3. Mary Kate and Ashley Olsen (Michelle on "Full House"), **Raven-**

Symone (Olivia on "The Cosby Show"), **Macaulay Culkin** (Kevin in *Home Alone*), and all the other too-cute-to-be-true munchkins as Lemmings in *Lemmings 3: Money to Spend*.

4. David Faustino (Bud Bundy on "Married With Children") in *Man Enough 2: The Quest Continues*.

5. Adam Rich (Nicholas on "Eight is Enough"), **Todd Bridges** (Willis on "Diffrent Strokes"), and **Danny Bonaduce** (Danny on "The Partridge Family") together in *Police Quest 8: The Rehab*.

—Sarah Tilton



Chauncey (Cameron) is ready to defend his reward in *The Horde*.



Jason Hervey flexes his talent as Troll Leader in *Return to Zork*.



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High-Tech Nostalgia

With all the latest double-speed, overdriven, billion-color, 32-bit-with-four-on-the-floor gaming equipment on the market today, why would anyone still want relics from the Dark Ages of gaming technology?

Defying the ravages of time and technology, a hardy handful of electronic archaeologists continues to seek out gaming artifacts from the pre-Nintendo era. Their goal: to assemble a fossil record of such extinct species as ColecoVision, Atari 2600, Intellivision, and Vectrex.

What spurs them on? Morbid curiosity? A desire to live in the past? Or is there some other attraction?

In the old days, says collector Bobby Tribble, "instead of long-lasting games being the exception like they are today, they were the norm." Tribble and his cohorts fondly recall the days before games became formulaic, side-scrolling action adventures. Collector Brian Bernstein lumps current offerings into two categories: "Run down this street with a bad-ass look and kung-fu chop everything in sight [or] jump this happy-looking character over these dumpy-looking things and get happy points for collecting smiley faces. There is no creativity in today's games," he complains.

So these high-tech historians search flea markets, haunt yard sales, browse thrift shops, and scan electronic bulletin boards to find that elusive copy of Choplifter or Food Fight—or maybe even the Holy Grail of game collectors, Milton Bradley's own Edsel, the Vectrex.

"The Vectrex was such an innovation, having its own vector graphics screen"—like the screen used in Asteroids and Tempest—"and so badly timed that very few of them are around," says aficionado Jonny Farringdon. As a result, collectors now pay more than \$150 for a system that cost less than \$50 at the end of its first life.

If you want to cash in or just bring back some memories, dig into the closet and pull out that old game system. You might be surprised at how much fun it is.—*Christopher Lindquist*

Let Your Fingertips Do The Shopping

First there was shopping by mail. Then there was the Home Shopping Channel. And now, courtesy of Apple Computer, there's a pilot program that lets you try out interactive shopping on CD-ROM. Apple is testing a new product,

called *En Passant*, that lets you browse through catalogs from companies such as L.L. Bean and the Nature Company and view pictures (and sometimes videos) of various categories of merchandise. One step beyond home shopping, it includes a search feature that can



select, for example, men's hats, then list every model under \$50 in every catalog. Its color palette displays the various colors available.

You also can view information on how certain products are assembled, or see a short video demonstrating exercise equipment. Ready to buy? Do it via a single toll-free number. (Apple Computer; 800-538-9696)

—Cate Bavelas

OTHER GAMES MAY TALK. THIS ONE HAS A VOICE.

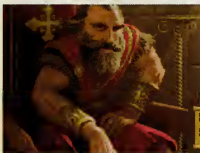
Star Trek: The Next Generation's

PATRICK STEWART

in

LANDS OF LORE: *The Throne of Chaos*

With Patrick Stewart as the voice of King Richard, *Lands of Lore* has a royal advantage over other fantasy games: An actor of real authority in a role of authority, at the head of a huge cast of heroes and villains who speak, rant and roar their way through the most vocally interactive



role-playing adventure yet devised. (A mammoth 130 MB of digitized speech makes it possible.)

The Dark Army is on the move, led by the shape-shifting sorceress Scotia—and each time you meet her she'll be more powerful and terrifying than the last. But your powers can grow, too. Experienced-based character development makes great warriors of those who take arms (in real-time combat) against a sea of indescribable monsters

and makes mighty wizards of those who cast Larger-Than-Life spells. Explore ancient castles, living

forests, hidden lairs, bustling towns, haunted caverns, through 30 enchanted levels made vividly real by more than 20 MB of compressed art and special effects.



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PC GAMES



Microsoft's perennial flight sim takes off again with Flight Simulator 5.0.

- 1 Microsoft Flight Simulator 5.0** From takeoff to landing, you're in control of your choice of airplanes with improved graphics and realistic extras. (Microsoft; 800-426-9400; \$64.95)
- 2 Privateer** Wing Commander with a decidedly mercenary twist. Make shady deals and run dangerous missions in the Wing Commander universe. (Origin Systems; 800-245-4525; \$79.95)
- 3 AD&D Dark Sun** A harsh desert universe complete with sorcerings, hostile monsters, and rebel forces. (Strategic Simulations; 800-245-4525; \$80)
- 4 Return to Zork** The Great Underground Empire gets a hot new look in this text-free interactive video adventure. (Activision/Infocom; 800-477-3650; \$79.95)
- 5 San Francisco: Flight Simulator 5.0 Scenery Upgrade** This add-on product for Microsoft Flight Simulator 5.0 features an aerial tour of San Francisco landmarks. (Mallard Software; 800-932-3338; \$49.95)
- 6 Master of Orion** Explore the galaxy, vie for development against alien races, defend your empire, and combat enemies with a build-your-own fleet of ships. (MicroProse; 800-879-7529; \$69.95)
- 7 Microsoft Arcade** Shoot your way through five classic arcade games—Asteroids, Centipede, Tempest, Missile Command, and Battlezone. (Microsoft; 800-426-9400; \$39.95)
- 8 Street Fighter II** Battle eight of the wildest warriors the world has ever known. (UltraTech; 800-447-6543; \$59.95)
- 9 X-Wing** Help the rebels in this space-flight simulator enhanced with extensive Star Wars video footage. (LucasArts Entertainment; 800-782-7927; \$69.65)
- 10 The Blue and the Gray** A challenging re-creation of the American Civil War. (Impressions Software; 617-225-0848; \$69.95)

MAC GAMES



Mac users take to the skies with Chuck Yeager's high-flying Air Combat.

- 1 Chuck Yeager Air Combat** For those who long to soar. Type your dream—or nightmare—into the scenario editor, and you can track down some bogies. (Electronic Arts; 800-969-4263; \$59.95)
- 2 SimCity Classic** Create your own city where you set up residential, commercial, and industrial zones, build mass transit, provide police and fire protection, and set taxes. (Maxis; 800-336-2947; \$39.95)
- 3 Prince of Persia** Save the princess in this cinematic action adventure filled with sword fights and magic spells. (Bruderbund Software; 800-621-6263; \$34.95)
- 4 Star Trek: 25th Anniversary** Take the Enterprise out for a spin and boldly go where no man has gone before, exploring the final frontier as Captain Kirk himself. (Interplay; 800-969-4263; \$59.95)
- 5 Microsoft Flight Simulator 5.0** From takeoff to landing, you're in control of your choice of airplanes with improved graphics and realistic extras. (Microsoft; 800-426-9400; \$64.95)

CD-ROM TITLES



Revisit the Great Underground Empire in Return to Zork.

- 1 Return to Zork** The Great Underground Empire gets a new look in this text-free interactive video adventure. (Activision/Infocom; 800-477-3650; \$79.95)
- 2 The 7th Guest** Explore 22 rooms of a terrifyingly real virtual mansion in this interactive drama complete with live-action video. (Virgin Interactive Entertainment; 800-874-4607; \$99.99)
- 3 King's Quest VI Upgrade** Registered owners of earlier King's Quest games can get the latest CD-ROM version of this adventure story at a reduced price. (Sierra On-Line; 800-743-7725; \$39.95)
- 4 ROMaterial** An exciting array of icons, screen savers, full-motion video, and sound effects. (Moon Valley; 800-443-2748; \$29.95)
- 5 MPC Wizard** A configuration and testing utility for multimedia computers. (Arlis Entertainment; 800-245-4525; \$14.95)
- 6 Dracula Unleashed** Go neck to neck with the Great Bloodsucker in this interactive horror tale of corpses and vampire brides. You direct the drama! (Viacom New Media; 800-245-4525; \$69.95)
- 7 Mad Dog McCree** Shoot your way through the old West, saving the town, the mayor, and his daughter in a final showdown against the outlaw Mad Dog McCree. (American Laser Games; 800-863-4263; \$59.95)
- 8 Day of the Tentacle: Maniac Mansion** A wacky adventure with tongue-in-cheek cartoon graphics and the characters from Maniac Mansion. (LucasArts Entertainment; 800-782-7927; \$89.95)
- 9 Just Grandma and Me** Animated and interactive fun with Bruderbund's first Living Book, a storybook your child can play. (Bruderbund Software; 800-521-6263; approximately \$45)
- 10 Wing Commander Deluxe Edition** Thwart the deadly Kilrathi and their secret weapon, or fly undercover missions to expose the Kilrathi Holy War. (Origin Systems; 800-245-4525; approximately \$35)

The Leader Board is a compilation of top-selling software in 1,300 retail stores for October, 1993. Some titles may appear in more than one category. Source: PC Data.

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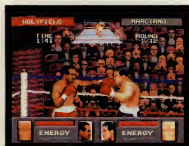
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spotlight

JAM ON IT

Make Your Own MIDI

If you hated piano lessons but love the idea of making music, you've got to check out **Kawai's X50-D MIDI keyboard**.

Forget tortuously banging out scales—with this board's enhanced composing and songwriting features, even beginners can sound like pros. Not only does the X50-D deliver 3-D sound through its four multidirectional speakers, but it offers a 61-note keyboard, full piano-sized keys, and compatibility with your 16-bit MIDI sound card.

Composers will love the X50-D's rich piano sound.

The overdubbing recorder handles up to five tracks at once, as well as accompaniment styles (ranging from jazz to bluegrass).

There's also a programmable ad-lib feature that lets you instantly sound like

an expert—just by hitting a single key.

This keyboard makes it easy to jazz up even the simplest song, and its 3-D sounds are absolutely stellar. The sound is richer than you could ever imagine coming out of a portable keyboard.

But best of all, this instrument makes it easy to create your own accompaniment music and styles. You can even do your own intros, fill-ins, and endings without having to endure an endless programming process. Just hit the Stylemaker button, select the rhythm, and assemble the right instruments and sounds.

Connecting the X50-D to a multimedia PC is foolproof. Attach the MIDI cables to your sound card, and the whole thing is up and running in no time. If you're looking for a great MIDI keyboard for making music with your PC, look no further. The Kawai X50-D is definitely the one. (Kawai America; 310-631-1771; PC/Mac, \$699)

—Gina Smith

Frustrated musicians can jam on Kawai's new X50-D keyboard.



InfoNation: Rating The USA to Z

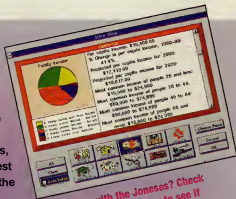
Ever hear of Pine Bluff, Arizona? We hope not. Out of 303 metropolitan areas, Pine Bluff has the distinction of being the worst place to live in the United States.

That's according to InfoNation from Software Marketing. Paradise for stat freaks, InfoNation has all the facts on America. Whether you want to find the city with the largest percentage of people who speak Russian at home (Salem, Oregon) or the state with the largest number of sports teams (California), you'll find it in this set of three discs.

Use the Rank-and-Filter option to highlight what's important to you. First, choose from nine categories: people, crime, the arts, housing, sports, environment, money, education, and transportation. Next, filter data and places, weighting specific data such as number of household incomes above \$75,000. The Data Viewer lets you pick a place of interest—for example, California—and then choose from the same nine information categories. The Map Layers feature lets you zoom in on specific areas, while the Search Index locates states, cities, national parks, Indian reservations, and other points of interest.

If you need—or simply love—information, InfoNation has the facts you want. It will tell you, for example, that the two states with the best quality of life are Massachusetts and Connecticut. The worst two are Arkansas and Mississippi. Let's hope the Clintons do a better job with America. (Software Marketing; 800-364-5451; DOS/Windows; \$49.95)

—Donna Meyerson



Keeping up with the Joneses? Check out InfoNation's Data View to see if your salary's in the norm for your state.

Modelmaking Goes High Tech

The plastic model you build will never look as good as the one on the box. It's a natural law.

But now, Revell-Monogram is trying to put an end to torn decals and glue-smudged windshields by combining cutting-edge technology with old-time model building. The **Revell CD** line of **plastic model kits** (Backroad Racers, European Racers, and Operation Airstorm) not only packs the standard foldout instruction sheet. You also get a CD-ROM that adds a new dimension to model construction.

Model building has never been easier. Open up the Backroad Racers kit, pop the CD-ROM in your PC (or Sega system this summer), and get ready to roll. You pick your particular model off a car lot holding four different machines. A fast-talking used-car salesman provides the patter and tells you all about your purchase.

After you've got the keys, take your new toy into the garage to get information on everything from the building tools that you'll need to com-

plete the kit to motorhead trivia about your 'rod. One cool garage feature lets you try different paint jobs without ever putting brush to plastic. You can even add such custom touches as flames or lightning bolts.

You'll be sure to have a top-notch model on your hands if you follow the step-by-step animated instructions and pro modeling tips (sand tires to make them look realistic, and use white glue to attach clear plastic parts to avoid fogging).

Once you've built the model, put yourself in the driver's seat (or pilot's seat in Operation Airstorm), and hit the road in Revell's racing game. Look out for your opponents and police cruisers eager to write you a ticket. Backroad Racers may not be the hottest car-racing simulator on the market today, but the cool video clips of the other drivers (and the cops, if you're not lucky or fast enough) make for a fun ride. (Revell-Monogram; 800-473-1993; CD for DOS, Sega CD, \$69.95)

—Christopher Lindquist



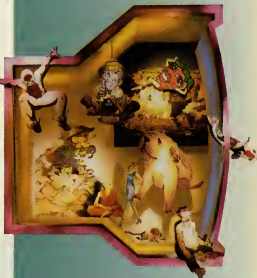
After you've put together your dream machine, take it for a spin against any one of four trash-talking champions.



Take your pick into the garage to learn how to build 'em like the pros.

Crystal Walls

Why settle for boring Windows wallpaper? **Crystal Walls**, from Domain Virtual Worlds, lets you display animated, interactive backgrounds behind the windows on your screen.



Crystal Walls livens up your Windows desktop with animated new worlds.

And what a selection! This \$69.95 package includes 18 3-D-rendered "worlds" to choose from. Our favorite is 13 Sharpeis Contemplating the Universe, where the beautifully animated Chinese bulldogs follow your mouse pointer around the screen by the light of a silvery moon. Other gorgeous choices include an animation of the Earth rising over the Moon, moving gnomes that pull down menus and push buttons for you, and a watercolor rendition of a Serengeti savannah depicting lions chasing—and then sharing—dinner.

Surprisingly, Crystal Walls runs acceptably even on an old 33MHz 386. Better still, while it takes beautiful advantage of a high-quality 256-color Super VGA system, you can enjoy it even on a standard VGA monitor with just 16 colors. If you're into dressing up your Windows workspace, don't miss Crystal Walls. (Domain Virtual Worlds; 800-896-7537; Windows, \$69.95)

—Gina Smith

VIRTUAL DATING

How to Pick Up Girls With Your PC

This place is like the swimsuit issue, and you're on the cover." Who says pickup lines are dead? As **Man Enough**, a new double-disc title from Tsunami Media, proves, they'll survive on CD-ROM.

Billed as the world's first "social adventure" CD-ROM game, *Man Enough* lets you pick just the right lines needed to win a video skydiving "date" with matchmaker Jeri, played by Tonia Keyser, the reigning Miss California/World. But first, you've got to prove yourself man enough to meet and survive action dates with five of Jeri's special "clients."

Man Enough is no new-age, politically correct tract for the nineties. It's more like an adolescent, *Playboy* magazine fantasy of what dating must be like. While the five clients have high-profile careers, they spend most of the game posing and cavorting in leotards or lacy lingerie. There's no nudity, but macho pickup lines and suggestive responses play leading roles.

The slow and stilted game play proceeds as players click on the woman of their choice and select one of three "lines" most appropriate to the woman and the situation. (You use *Playboy*-style dossiers as research.) More than 1,400

full-screen slide-show photos and spoken

words illustrate the responses from the clients, while 45 minutes of herky-jerky

video clips playing in a less than quarter-screen window let you talk to Jeri and provide transitions

between questions. The action plays out over an obnoxious synthesized soundtrack that includes Ravel's "Bolero."

Pick the "right" line, and you get a seductive come-on in return. Pick the wrong one, and you'll get an icy put-down complete with frowns, cold stares, and "oh-you're-so-cute-when-you're-mad" wrinkled noses. Unfortunately, the choice of lines you get ranges from sophomoric to offensive. When you first encounter Erin at the Iron Maiden Gym, for example, you can use any of these stellar openers: "Just thinking the dumbbells have all the fun, gripped by



PHOTOGRAPH BY MARIA TABERT/IMAGE UNAK

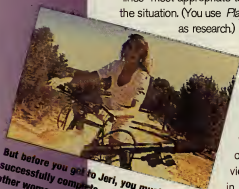
you," or "Take a break. Your body looks good enough to me already," or "Do you know CPR? My heart stopped when I saw you just now."

Though fascinating in an awful sort of way, let's hope that *Man Enough* doesn't raise a generation of young men who can relate to women only through lines like this. *Woman Enough*, for female players, is reportedly under development, but don't expect miracles. (Tsunami Media; 800-644-9283; CD for DOS, \$79.95)

—Fredric Paul



The goal of *Man Enough* is to win a date with Jeri, played by Miss California/World Tonia Keyser.



But before you get to Jeri, you must successfully complete action dates with five other women, including Fawn.

Laugh—if You Can Stand It

Take this CD-ROM. Please. **A Million Laughs**, a massive CD-ROM compendium of humor, can't live up to its title. In fact, it falls short by about 825,000 giggles.

But that still leaves those in search of a little levity with more than 175,000 different jokes, riddles, puns, quotes, limericks, one-liners, insults, and toasts to choose from. Although the disc uses a joke-book interface, it's more useful than a typical joke book because the humor is cross-referenced by type and alphabetically by subject. There's even a rudimentary search engine so you can easily find exactly the laugh you're looking for. With all those zingers to leaf through, though, searches are so slow they could be arrested for loitering.

And unlike even the biggest joke book, *A Million Laughs' Comedy Club* presents a sleazy animated comedian who actually delivers some 70 of the jokes. For more audio excitement, there's a library of funny sounds including Nixon's "I am not a crook" speech.

Of course, most of the stuff in *A Million Laughs* isn't that funny. (Neither, for that matter, are most joke books.) In fact, most of the jokes are so old their toupees are turning gray. These jokes are so old they're approaching middle age for the third time. They're so old...well, you get the picture. (InterActive Publishing; 914-426-0400; CD for Windows/Mac, \$59.95) —Fredric Paul

WARNING: All jokes in this review taken from the program.

Macs finally get some realistic flight-sim gear.



A Million Laughs' animated Comedy Club comedian delivers only about 80 of the program's 175,000 jokes.

Flying Macs

Thrustmaster is bucking the trend toward PC-only "flight simulation enhancement products" by releasing Mac versions of its highly praised *Flight, Weapons, and Rudder Control Systems*. The slick sticks will add a new thrill to Chuck Yeager's *Air Combat* and other Mac-based flight simulations (including LucasArts' rumored *X-Wing* for the Macintosh). They include configuration software to set up custom controls for a

variety of games, including those that don't support Thrustmaster hardware.

The Mark I Flight Control System has a combat stick look and feel, with four programmable fire buttons and a directional "hat" that sits on top of the main joystick. The Weapons Control System functions as a throttle and sports six buttons and a three-way toggle switch

that can be programmed to operate different aircraft capabilities—such as lowering the landing gear or selecting weapons. The Rudder Control System adds the finishing touch for any sim fanatic by allowing realistic foot control of the aircraft's rudder.

If they aren't afraid to spend a few bucks, Mac flight-sim buffs can now have the same toys, and fun, as the PC boys. (Thrustmaster; 503-639-3200; Mac; Flight Control System, \$99.95, Weapons Control System, \$149.95, Rudder Control System, \$149.95)

—Christopher Lindquist

PHOTOGRAPH BY DAN CLARK

You won't find in any

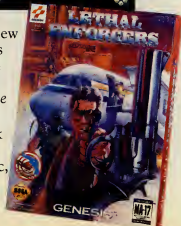


We needed a gun to bring this treat home.

Lethal Enforcers™ comes to Sega CD™ and Sega™ Genesis™ packed with a powerful surprise inside. The Chicago P.D. needs you to go up against a slew of terrorists like you've never seen. Every deadly move is digitized from actual human movement. It's so lethal we needed to load your side iron, The Justifier™, into every package, for a total arcade experience *unlike anything you've played at home before.*

Just like at the arcades, you've got to time your quick reload feature exactly right so you don't run out of ammo.

Upgrade your firepower along the way to magnum, 12-round automatic, assault rifle or grenade gun. Six levels, including target training, will put your skill to the test in the parts of the Windy City the tourists never see.



a toy like this Cracker Jack[®] box.



Be on the lookout for a bank job in progress, high speed chase, helicopter pursuit and volatile Heat of the Night Vision during a chemical plant sabotage. See and hear it all in intense digitized graphics, realistic settings and painful sound effects. But watch out for the innocent bystanders or you may lose more than your badge.

For one or two top cops.
(2nd player can use controller or mail in for another "Justifier." See details inside package.)
A Super NES[®] game may be released. Please check with Konami for availability.

Letal Enforcers™ is a trademark of Konami (America) Inc. Konami® is a registered trademark of Konami Co., Ltd.
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Konami Game Hire and Top Line® 1-800-896-HINT(4468)
70¢ per minute charge. Minors must have parental permission before calling. Touch-tone phone required.

KONAMI[®]

Circle 8 on Reader Service Card



REFERENCE WARS

Rating the Electronic Encyclopedias

Today's encyclopedia salesman no longer knocks at your door hawking 58-volume sets of boring books destined to sit on dusty shelves.

Happily, the Information Age has transformed these old educational standbys into a new and different kind of educational experience. By putting their products on CD-ROM and adding multimedia enhancements, encyclopedia publishers such as Compton's and Grolier's as well as software giant Microsoft hope to attract the new generation of technophile students.

Instead of merely reading a dry article about the civil rights movement, for example, today's kids can watch and listen to Martin Luther King, Jr. deliver his famous "I have a dream" speech. They can also use hypertext links to check out the movement's central figures and explore related topics. That's important, since even the most advanced products have added multimedia enhancements to only a tiny percentage of the thousands of articles they contain.

The three leading CD-ROM encyclopedia publishers are racing to provide the most complete and timely information, the speediest technology, and the hottest multimedia bells and whistles. Grolier Publishing, which in 1986 became the first company to release a CD-ROM-based encyclopedia, has upgraded its multimedia experiences with **The New Grolier Multimedia Encyclopedia release 6. Compton's Interactive Encyclopedia** from New Media continues to focus on the visual experience. And **Microsoft Encarta 1994 Edition Multimedia Encyclopedia** has increased the speed when searching, so there's less waiting.

■ CONTENT DRIVEN

Of the three, The New Grolier Multimedia

Encyclopedia 6.0 has the most in-depth content. With more than 33,000 articles and 10 million words, it's best suited for older students. The lengthy articles are chock-full of information, and authors' bylines give credibility to the information.

But Grolier's still has a way to go when it comes to multimedia. When you call up a video or picture, the program dumps the window directly on top of the article. Sound clips lack visuals—when you hear a bullfrog croak, seeing even a still picture of it would create a superior experience. And the 250-plus maps are static graphics without multimedia enhancements.



Call up a photograph, and Grolier's drops it on top of the article.

Grolier's latest release adds three new features: Multimedia Maps, Narrated Animations, and the Knowledge Explorer Audio Visual Essay. The 15 animated Multimedia Maps chart important events in history as a narrator explains the sequence of events. The disc also holds 35 Narrated Animations that combine voice and pictures. The 13 Knowledge Explorer selections are divided into four categories: The Arts, Nature, Geography, and Science. These explorations contain audio and visual essays without text.

■ SHORT AND SWEET

Compton's Interactive Encyclopedia is easy to navigate through, which makes it



Grolier's release 6 adds historical Multimedia Maps, which provide narrated explanations of related facts.

a great product for younger children. Like Grolier's, Compton's boasts more than 33,000 articles, but it contains a million fewer words. Compton's articles are shorter and geared to younger readers. Ninety-six sound clips accompany either photos or videos, but the total of just 50 minutes of sound pales in comparison to the 3½ to 8 hours available from the competitors. The World Atlas does contain 800 maps that let you zoom in and out for a whole-earth or a close-in city view. The World Atlas menu offers search features to find articles, pictures, and facts.

Like the Grolier's disc, Compton's video clips are confined to a disappointingly tiny postage-stamp-size window (2 by 1.5 inch-



Compton's incorporates pictures, sounds, videos, slides, and animations to make information come alive.

es). But Compton's plans to release a version that will work with the new MPEG video-compression boards now hitting the market to offer full-screen, full-motion video, just like television.

Version 2.0, meanwhile, adds Time-lines, which offer detailed information on world and U.S. history, and InfoPilot, a navigation device. To access related articles and multimedia from the timeline, simply select a topic and use InfoPilot to browse through five different articles. The screen displays five separate windows in the foreground and shows 16 additional suggestions in the background. It's a wonderful way to brainstorm an idea.



Compton's new InfoPilot feature automatically brings up five articles related to a chosen topic. The background displays 16 more links to the topic.

Other innovative features include SmartTrieve and Virtual Workspace. SmartTrieve technology helps young users use natural language searches. If you enter the question, "Are birds mammals?" for example, it automatically knows to ignore common words such as "are" and searches for "birds" and "mammals." The program pulls up related articles, pictures, and facts, although it occasionally grabs

some unrelated information as well. Virtual Workspace expands the program's "desktop" beyond the limits of the screen to let you open multiple articles at the same time. You move around the workspace with the help of a tracking grid.

MULTIMEDIA MAVEN

Microsoft's easy-to-use Encarta Multimedia Encyclopedia is full of great multimedia experiences. Though Encarta contains only 26,000 articles, it matches Compton's 9 million word count. More important, Encarta's well-designed interface gives it more of a "multimedia" feeling. When you bring up an article onscreen, the window containing the article also includes a gallery frame (for images and sound) and a category frame (which allows alphabetical browsing). The three elements nicely complement one another to speed research.

Earlier releases of Encarta lacked video, but the 1994 edition includes 45 video clips that run in quarter-screen windows. Encarta also has a large atlas that contains nearly 800 maps. You can zoom in to a particular location using the Find



Encarta uses sound especially well, from pronouncing place names to playing national anthems.



Encarta creates its multimedia feel by including pictures and videos in the same window with the articles.

a Place icon, but you lose your place when you zoom out to a world view. Each map incorporates several multimedia hot spots. Click on these to bring up associated sights and sounds, including flags and national anthems. Encarta will also pronounce place names for you.

Which one of these products is right for you? That depends. If you want the most comprehensive collection of traditional encyclopedia information, go with Grolier's. Compton's offers a nice mix of content and multimedia enhancements. And Encarta makes it especially easy to get at the information and multimedia experiences.

The great multimedia encyclopedia competition may be tough on the companies, but it's great news for consumers. It's one reason that all three products have so much to offer. And as video-compression technology improves, you can look forward to larger, longer, and higher-quality video clips on all three products. This will make the encyclopedias seem more like TV—and even more appealing to youngsters.

—Donna Meyerson

New Grolier Multimedia Encyclopedia 6.0

800-356-5590

\$395

Age 11 to adult

CD for DOS/Windows/Mac

Text Content: Academic American

Encyclopedia (21 volumes), 1993

Articles: 33,000

Movies (video/animation): 90

Photos/illustrations: over 4,000

Sound: 3½ hours

Maps: over 200

Compton's Interactive Encyclopedia

800-862-2206

\$395

Age 8 to adult

CD for Windows/Mac

Text Content: Compton's Encyclopedia

(26 volumes), 1993

Articles: 33,700

Movies (video/animation): 62

Photos/illustrations: 7,000

Sound: 50 minutes

Maps: 800

Microsoft Encarta 1994 Edition Multimedia Encyclopedia

800-426-9400

\$395

Age 9 to adult

CD for Windows/Mac

Text Content: Funk & Wagnall's New

Encyclopedia (29 volumes), 1993

Articles: 26,000

Movies (video/animation): 106

Photos/illustrations: 8,200

Sound: 8 hours

Maps: 798

A CD-ROM SING-ALONG

A Trip to TuneLand

Move over Mickey. Get outa the way, Tom. And you too, Jerry. Your days may not be numbered, but you're starting to show your age.

The latest hot cartoon isn't on TV, it's on PC. Titled **TuneLand**, this mix of children's songs, prime-time-style animation, and the squeaky voice of Howie Mandel—the standup comic who made rubber gloves a fashion item—puts interactive cartoons on the map. Created by startup 7th Level, TuneLand may not have enough "ed" to deserve the label edutainment, but it's definitely one of the most entertaining kids' titles that's available on CD-ROM.

Cartoon all the way, TuneLand's Lil' Howie, played by Mandel with the high-pitched

sidekick—like Tom's Jerry or Fred's Barney—to really shine.

Like many other children's CD-ROM discs, TuneLand uses the Living Books style of operation, where onscreen objects do something neat when they're clicked. Tune-

Land's are much funnier, though, with frogs squeezing through drainpipes, turtles popping out of eggs, and lots and lots of music. It's the songs that make TuneLand. With more than 40 favorites—"I'm a Little Teapot," "The Itsy Bitsy Spider," and "Polly Put the Kettle On," among others—TuneLand is ultimate-

ly an audio extravaganza. Charming as they are, though, the songs' most potent appeal come from their wildly different styles. "Hickory Dickory Dock," for instance, has a Big Band swing sound, while other tunes play with classical, C&W, or even hip-hop stylings. In fact, the vocals and instrumentation come courtesy of such seasoned baby-boom rockers as Yes's Jon Anderson, Tower of Power's

Lee Thornburg, and Pink Floyd saxman and 7th Level vice-president Scott Page. Nothing bland about the soundtrack of this interactive cartoon.

As the songs play, TuneLand's colorful and well-synched animated scenes keep the eyes busy. Rodents chase the wife in "Three Blind Mice," the old gray mare gets serenaded by a barn full of animals in her namesake song, and dozens of other characters dance and frolic. The animation is

crisp and—at least on a double-speed CD-ROM drive—fast enough to appear as smooth as glass. (A version still under construction showed some severe flow problems

on a single-speed drive, however.)

TuneLand doesn't deliver on its educational pretensions, though. There's no read-along text onscreen and no school skills to practice. And TuneLand isn't a game in the traditional sense. But TuneLand is fun. With a unique mix of cartoon and sing-along, for families with preschoolers, this clever and cute disc is nearly compulsory. (7th Level; 818-547-1955; CD for Windows, \$59.95)

—Gregg Keizer



Jack and Jill pop up from time to time in TuneLand, or kids can click on the old gray mare to hear her song. Lil' Howie's hiding under the trap door.



TuneLand's colorful graphics are a delight for preschoolers. Click on almost any object, and you'll hear a song or watch something interesting.

squeal he made famous on the Saturday morning show "Bobby's World," plays a game of hide-and-seek. Kids look for him by clicking their way through eight different animated scenarios around his wacky farm. Only Lil' Howie gets enough screen time to develop a personality, though. Maybe he needs a



Lil' Howie struts his stuff on TuneLand's main screen. Kids just click on characters—or in some cases, doors—to move to this disc's different scenes.

DAEMONSGATE™

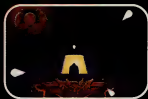


A Roleplaying Game of Epic Proportions....



Journey through a hostile land, to liberate your people from a malevolent foe of unparalleled savagery.

Daemonsgate: Available from selected retailers NOW! IBM PC Disk & CD ROM



THE BEAR FACTS

Software Gets Cuddly

Software, really, is anything but soft. It isn't squeezable, and you can't curl up with it at night. That's why software companies out to capture the kids' market have begun packaging their wares with stuffed animals.

In fact, inch per inch and ounce per ounce, InterActive Publishing's **Teddy's Big Day**, for ages 6 months to 4 years, comes with a lot more stuffed animal than software. Designed to introduce the very young to the keyboard, the software-plushware program combo is sure to delight parents who can't wait to say "look, Johnny's using the computer." Kids need only press a key, any key, to get the onscreen Teddy out of bed and move him through his daily activities.

Given tykes' natural penchant for banging on things, they should get the hang of the game right away—though it's questionable whether infants will really learn computer skills. But the music, screen animation, and 10-inch-tall Teddy are delightful, and at \$29.95, it's a very nice bundled buy. Children who join Teddy's Fan Club



Morgan Interactive's version of **The Ugly Duckling** story is full of animations and musical bits for children to enjoy.

will receive birthday cards and newsletters and can order additional bears for a small fee. (InterActive Publishing; 914-426-0400; DOS; \$29.95)

Hans Christian Andersen's **Ugly Duckling** (ages 3 to 9) comes with a 6-inch, long-necked gray critter with plush as its pin feathers. This bird, sadly, will never grow to be a swan, but he does provide a lovable link to a



Kids as young as 6 months can get **Teddy up and out of bed** by pounding any key on the keyboard.



beautifully illustrated interactive storybook.

Available both on floppy disk and CD-ROM, the story features an original musical score and more than 500 animations (250 in the floppy version) that spring to life when the kids click on a barnyard character or forest inhabitant. A highlight follows the text as it is narrated, and kids can click on individual words to hear them pronounced. In a musical mode, they can click on any of three tune titles to call up lyrics and sing along as the words are highlighted. (Morgan Interactive; 800-245-4525; Windows/Mac, \$39.95; CD for Windows/Mac, \$49.95)

Like *The Ugly Duckling*, Multicom Publishings' **Dandy Dinosaurs** is a CD-ROM storybook for children aged 3 to 9. In this case the cuddly bonus is a smiling green creature that looks a lot like a dinosaur but, strangely, is named Max the Dragon. Full of interactive stories, games such as *Find the Baby Dinosaur* (where kids click on dino



Max the Dragon supplies a list of items kids will need to make a fire-breathing dragon of their own.

cartoons in an illustration), and crafts to build at home, the program is an ideal rainy-day companion.

Videos demonstrate how to use common kitchen items to create a fire-breathing dragon or a sandwich monster, talking the children through each step of the process. Since narrations guide children through the activities, pre-

readers can enjoy the fun as easily as their older siblings. (Multicom Publishing; 800-245-4525; CD for Windows/Mac, \$59.95)

—Carol Ellison



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BIGGER

BETTER

LOUDER

MEANER



MIDWAY.

SEGA CD
Circle 154 on Reader Service Card

Acclaim
entertainment inc.



The rappin' Oranga Banga is one of Thinkin' Things' hip hosts.



Kids fill orders in Thinkin' Things' Frippe Shop to learn problem solving.



Hunt for the best parts in Gizmos and Gadgets, but watch out for the tricky Cyber Chimps—they're out to steal the parts from you!

RUBE GOLDBERG REVISITED

Gizmos & Gadgets And Thinkin' Things

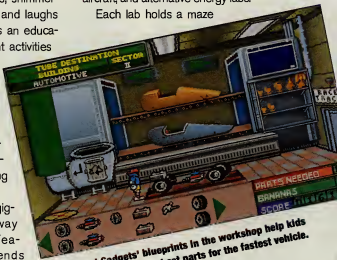
From blocks and bangles to go-carts and gewgaws, from sounds and colors to things to be built, **Thinkin' Things** from Edmark and **Gizmos & Gadgets** from the Learning Company capitalize on kids' natural talent for tinkering.

Thinkin' Things packs enough beating drums, crashing symbols, shimmering chimes, gurgles, burps, and laughs to fill a carnival funhouse. As an educational tool, it uses six different activities to prompt kids to recognize and logically associate shapes, sounds, and colors. But this program is just plain fun, not to mention as addictive as Tetris. Forget the 4-to-8 age rating—this one had a 9-year-old and two adults battling for control of the keyboard.

Kids can giggle their way from the Feathered Friends Workshop—a Willy Wonka-style factory that stamps out goofy birds kids assemble from a selection of hats, shoes, body colors, and patterns—to the Frippe Shop, where they fill orders for cartoon characters. The two musical games for composer/musicians invite you to bang out tunes on chimes and percussion instruments by clicking on instruments on the screen. Or fashion your own light and sound show in Blox, a pair of games where you place various blocks and balls on the screen and send them flying through two- and three-dimensional displays filled with sound effects. (Edmark; 206-556-8484; DOS/Mac, \$59.95)

For slightly older kids (7 to 12), the Learning Company's **Gizmos & Gadgets** teaches concepts of physical science as it sets kids on a trek through the Shady Glen Technology Center. They must prove their scientific savvy to the Master of Mischief, Morty Maxwell, in the center's automotive, aircraft, and alternative energy labs.

Each lab holds a maze



Gizmos and Gadgets' blueprints in the workshop help kids determine which are the best parts for the fastest vehicle.

full of locked doors kids can open only by solving scientific puzzles—arranging magnets in a shape or shooting a ball of a certain weight to a specific distance. For help, kids read onscreen hints about the topic. As they proceed through the maze, kids find pieces of gadgets. After gathering what they need to assemble a vehicle, they build it and race against Morty. If they assembled the optimum parts, they win. If not, they reenter the maze to find the parts needed to make their racers speedier, coping all the while with Maxwell's Cyber Chimps, who are also scooping up the parts.

The cartoon fun appeals to children's sense of competition. But at the same time it lets kids work as a team and coach each other to solve the puzzles. (The Learning Company; 800-852-2255; DOS, \$59.95)

—Carol Ellison

IMAGINE A GAMING DEVICE
SO INTUITIVE IT'S LIKE
NOT HAVING ONE
AT ALL.

CYBERMAN

THE MOST ADVANCED

WAY TO MASTER
3-D GAMES.



Now moving in a game is as easy as thinking about it.

Only CyberMan moves in three directions (x, y, and z) and three rotations (pitch, yaw, and roll), which correlate directly to your moves inside a 3-D game; your intuitive movements translate literally to the screen.

It's also the only controller with tactile feedback that makes you a physical part of the game. CyberMan is available now at your local dealer, or call **1-800-732-2935**



The Senseware™ Company

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Circle 17 on Reader Service Card



**As much excitement as you can
get from a wall socket
without that funny burning smell.**

Why just play games, when you can live them? Forget those digitized cartoons, Sega TruVideo™ games use real video footage. Meaning the action in the games is real. So's the rush of adrenaline you get while playing them. These aren't video games as you understand them. They're more like Hollywood movies, only you control the plots. And they have CD quality sound effects and music tracks, adding to the realism. So, when someone screams, it sounds

DOUBLE SWITCH™

You find yourself in a turn-of-the-century mansion full of surveillance cameras, traps, shady characters and unexpected secrets. It's rumored there's treasure buried somewhere, but no one knows for sure. You control the plot as the mystery of this mansion unravels.



JOE MONTANA NFL FOOTBALL™—It's game day and you're calling the action. You choose your team—you have access to all 28 teams and stats. You choose your plays—TruVideo™ Joe Montana will help you. And there are four different field views, creating endless hours of gridiron action.



PRIZE FIGHTER™—This interactive movie game is played entirely from your point of view. Land a punch and watch as your opponent reels. Take a punch, your screen racks. Take too many punches, you're flat on your back—looking up at the ref as he gives you the count. Don't forget your mouthpiece because this is classic interactive boxing at its best.



GROUND ZERO, TEXAS™—Aliens disguised as humans are ready to exterminate the entire human race. It's up to you to stop them. Uncover their plot, figure out how to kill them (man-made weapons only stun them) and annihilate their forces before it's too late. But be careful. Screw up and you'll be reduced to subatomic particles of radioactive fallout.

like you're in the room with them. Which, in a way, you are. What does all this TruVideo™ stuff mean? It means your optic nerves are in for a workout. It means you should go try these games. It means you may soon be wearing your hair differently. It means these games are indeed the next level. It means 110 volts never felt so good.

SEGA CD™
WELCOMETOTHENEXTLEVEL™

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Tube Man

Keith Ferrell

Brought to You By...

Have you noticed how many television commercials these days are using computerized interactivity as a metaphor? Dropdown menus on your TV screen, off-camera hands guiding mice to point and click at features and benefits of everything from cars to soft drinks. Think of it as the Windows or Macintosh interface approach to getting a message across.

These are not the sexiest or most elaborate of ads—indeed many of them are fairly simple local or co-op spots—but they do make a point: A sufficient portion of the television audience is now relaxed enough with the idea of computers to make it a useful advertising shorthand.

So, are these spots a subliminal softening of the audience in preparation for the arrival of truly interactive television advertising? No. The truth is that the advertising industry is still confused about the nature of interactive ads. They haven't got a clue. But neither does anybody else, really, with the exception of a few consultants and visionaries.

Still, interactive TV advertising is coming, and there are some questions to be asked before it arrives. First, and most important: What form will it take?

Depends on the TV. For all the talk of software challenges, television—the living room screen—is not going to enter the age of interaction until the nature, capabilities, and limits of the set itself are defined. In other words, it's the box, stupid.

For example, does the TV have a printer? If so, the advertisers have an effective tool: They can dispatch coupons immediately on demand. Does it have a keyboard of some sort, or will the interface be wholly push-but-

ton? Those decisions will affect the types of response advertisers can seek. Is there some sort of storage device attached? There will need to be if advertisers want to send information in response to customer queries.

Likewise, the very nature of a two-way interactive medium changes the rules for advertisers. With two-way communications, you get instant results. You know right away whether or not your message is getting through or being passed over. This raises more questions.

One: Will advertisers have the ability to capture names and addresses, turning that TV set in your den into a quick mailing-list generator?

Two: Will advertising agencies be rated on the quality of responses their interactive messages generate? Already the business press reports sleepless nights on Madison Avenue over this one.

Finally: Who's going to pay for this? Interactivity—true personal interactivity involving data transactions in something like real time—calls for people at both ends of the process.

You can only automate so much. Responses tailored for individuals call for more than just tele-operators taking orders. Agencies and clients are going to face hiring and training bills that have to be passed somewhere. Probably to you and me.

And once we're there—we've got the hardware, the software, the information thoroughfares necessary for fast two-way communication, even the personnel at the

other end of the road who can respond to customer inquiries—what then?

I think a whole new type of commercial is going to emerge. A portion of its root structure will lie in current infomercials, another substratum in online services. But even more will break new ground. The next five years should see the first of these experiments and test cases introduced. The five years after that will reveal exactly how much interactivity the public wants from its advertising.

Scalability is the key. Not every interactive ad needs to be multileveled and personal. A menu of simple options may do just fine for most messages. Value-added items over and above the heart of the message may well be required as a prod to improve consumer response. Otherwise, everyone may just change the channel.

The key to avoiding that last scenario—the key that Madison Avenue has to find—is a return to the kind of creativity that made advertising great, before it got displaced by too much hucksterism. The creativity is still there—

advertising continues to attract some of the most talented twenty-somethings around. Armed with a childhood spent around computers, video games, and in intelligent environments, they may have a thing to show us, and reinvent their industry while they're at it. Keep watching.

Keith Ferrell is the editor of *Omni*, editorial director of *Compute*, and science and technology editor of *Penthouse*, each of which covers the interactive revolution in its own way.

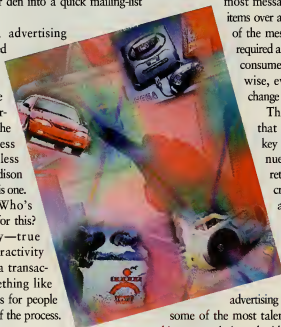


ILLUSTRATION BY LANCE JACKSON



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Game On

Rusel DeMaria

Go Play in the Highway

Where will you be in ten years? Odds are you'll be spending a lot of time in front of what you now think of as your television set. By then, your TV (not your computer) will be your own personal on-ramp to the so-called information superhighway.

At least that's what the pundits say. If you listen to them, the information superhighway will be a pure step forward, a wholesome idea that'll be good for everyone. But the motivation in building it is hardly pure. Even some of the architects admit the building of the info superhighway is all about fear and greed. Fear because all the cable and telephone companies are terrified the other side will get there first. Greed because there's major money to be made.

So what if the motivating force behind all this is on the smarmy side? If you're a game player, the end will justify the means. The info superhighway stands to absolutely revolutionize the way we play games.

So far, a lot of the hype harps on the idea of having 500 channels on your TV set. Sounds unpleasant, doesn't it? I mean, simply multiplying what we've got now by ten, or even a hundred, doesn't offer much to look forward to. Imagine shows like "Things You Can Do with a Shoelace" or a whole channel devoted to Lyme Disease.

But that's not really what all this is about. First of all, the whole 500 channel thing is just an example of a simple idea run amok. There's no fixed plan to provide exactly 500 channels of anything. There's just a technology that would allow approximately that many channels.

Each channel won't be a program-based service. What qualifies as a channel might simply be a chunk of bandwidth used to broadcast electronic information in a two-way link: no host, no logos, no theme songs,

and none of the other trappings we associate with television. But it would still be a channel on the net; you just won't always notice it.

Without a doubt, games will be a key piece of the puzzle—in addition to home shopping, of course, and video on demand, which lets you rent movies without having to find a parking space at the local Blockbuster.

The first example is the Sega Channel. After a three-month test with Time Warner and Tele-Communications Inc. (TCI) in 12 cities around the country, the Sega Channel should be available to most cable viewers this summer or fall. A subscription service like HBO or Showtime, the Sega Channel will let game players select from an ever-changing list of 50 Sega Genesis games, previews, and limited versions of titles under development.

Players will download their choices into a special converter attached to their Genesis deck. Sega expects to provide the converter free to subscribers, with maybe a nominal installation fee. The channel is estimated to cost around \$12 a month, about the same as any other subscription service.

But the Sega Channel will end up being just the Model T of games traffic on the info superhighway. The Benzes, Beemers, and 'Vettes will be games that let hundreds, even thousands of players interact with each other over vast distances. These games haven't been written yet (an early ancestor might be something like Shadow of Yserbius on the ImagiNation Network), and they won't be until a real interactive network gets built.

In other cases, the info superhighway will combine mass interactive gaming with televi-

sion as we know it, letting you play along with game shows, sporting events, and even sitcoms and dramas.

The Interactive Network, already available in Chicago and parts of California, provides a hint of what's coming. With special wireless control boxes linked to telephone lines for two-way communication, players compete by guessing what will happen next on game shows, football games, and standard TV fare such as "Murder, She Wrote" and "LA Law." A similar setup called Zing is also in the works. If these pioneer services prove profitable, look for new programming efforts aimed at interactive game playing.

But no matter how things shake out, it's clear that cable TV as we now know it is doomed. Cable mogul Ted Turner has already pronounced its post-mortem: "It's been a great 20 year ride," he said at a recent cable industry trade show. It's not that "cable" will go away, it's just that it will

be subsumed into a much larger industry that includes broadcast TV, games, movies, shopping, telephone links, and other information and entertainment services.

John Malone, president and CEO of TCI, describes the convergence this way: "Now you tend to look at this as one big industry with various compartments and various positions in the food chain." And you can bet games will sit pretty high up on that food chain . . . just below the 24-hour mummuu shopping channel.

Rusel DeMaria is E2's games editor and the author of more than 25 computer and video game strategy books.

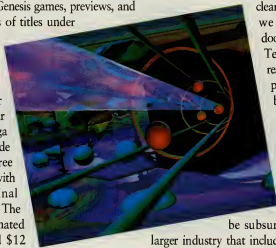


ILLUSTRATION BY GREGORY MANCINI

The background of the entire advertisement is a collage of black and white historical photographs from World War II. In the top left, a tank is positioned on a hill. The top right shows a soldier standing amidst the rubble of a destroyed city. The bottom left depicts soldiers in a trench. The bottom right shows a tank with a cross symbol on its side. The central text is set against a light, textured rectangular background.

In 1944, This Was The Only Heavy Metal Touring Europe.

American M4 Shermans. Tigers of the Third Reich. These were the tanks that rocked Europe from D-Day to the fall of Berlin in World War II. The same armored juggernauts that you'll command in the explosive new game *Across the Rhine* from MicroProse.

The title "ACROSS THE RHINE" is rendered in large, 3D block letters. Each letter serves as a frame for a different scene from the game, showing tanks in various combat environments. A small "TM" trademark symbol is located to the right of the word "RHINE".

ACROSS THE RHINE™

Jump into history's most famous tanks and experience the fierce combat and tough decisions that gripped World War II tank commanders. Take command of U.S. or German forces. Control single tanks or entire Companies. And blast your way through enemy units across the war-torn landscape of Europe.

Across the Rhine from MicroProse. And you thought heavy metal started in the 70's.

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Circle 79 on Reader Service Card



Party Girl

Spring Fever

Spring has sprung all right, but you won't catch me shivering in the foggy San Francisco drizzle. In spring a party girl's thoughts turn to sun, sand, and cigarette boats. And with most of the country still bundled into their wool coats and long underwear, what better time to hit the clear, warm waters around Key West?

I'm not alone. Lots of exhausted multimedia executives escape for the Keys just after the **Winter Consumer Electronics Show** in Las Vegas, so it's an excellent opportunity to mix pleasure with business. I've scarfed up amazing amounts of juicy material at the nightly Sunset Festival down here. Call it the salt air, but give the average pinstripe a pair of baggies and a few rum runners, and he'll happily spill his guts till dawn.

First night out, I turned up some refugees from the **3DO Company**, but they weren't much fun. Not only were they burnt to a crisp (hey boys, can you spell SPF?), but all they could do was whine about how bad a rap top boy Trip Hawkins is getting on his whizzy little box. Of course, everyone from **Wall Street** to **CNN** to the business rags has been bashing **Panasonic's 3DO Multiplayer** these days. But for the life of them, these sun-burned buddies couldn't figure out why.

Duh. Obviously, the problem is disappointment, but it's nothing that a bunch of hot new titles can't cure. No wonder 3DO is frantically trying to work out exclusive deals with record producers and movie studios to do 3DO versions of their most popular works. But with **Paramount** already working with **Philips**, and **Columbia Pictures** already in bed with corporate parent **Sony**, looks like poor 3DO is just going to have to share the wealth.

And speaking of wealth, there were some seriously rich dudes aboard the deep sea fisher I chartered the next morning. These were venture capitalists in the business of funding **digital signal processing (DSP)** companies, and they had good reason to celebrate. Now that **Media Vision** has teamed up with chipmaker **Analog Devices** to put a DSP on its sound card, all the other competitors in the market (**Creative Labs** and **Advanced Gravis**, included) are lining up, too. DSP stocks are about to skyrocket.

Even for consumers without bucks invested in silicon, this is great news. With DSP chips, sound-card makers can make boards that issue clearer, cleaner sound, and possibly perform other functions, including display full-motion video. Look for a range of multipurpose boards that mix sound and video-compression functions to hit the market this summer—and maybe even an upgrade of the **Windows Sound System** from **Microsoft** and **Compaq**.

Hopefully, Microsoft and others will get smart and start shipping cheap **MPEG** boards, similar to **Sigma Designs' ReelMagic** board. In fact, I'm going to scream if I have to watch one more video jerking along in a minuscule window. If you've ever seen the MPEG version of **Return to Zork** or **Compton's Multimedia Encyclopedia**, you know the difference full-screen, 30-frames-per-second video can make. Only problem is, few software makers want to make the investment into a market where precious few people actually own MPEG circuitry.

On the plane back to California, I learned

of a cool new plan that just might get us the serious video we crave. Seems that a bunch of card makers are planning to actually finance MPEG versions of popular titles, then bundle them in with their products. Instant market means instant shelf space, and multimedia and games companies will have to be crazy to not take advantage of an opportunity like this one.

With my faith in full-motion video restored, I decided to stop off in Tinseltown. There I found those wacky cowboys from **Origin** trying to cast roles in **Wing Commander III**, which is due out by year's end. Apparently, Origin is building tons of video footage into the upgrade, and it's looking for some big-name talent to fill it. It's too soon to tell who they'll tap, but if anyone's listening, my vote goes to

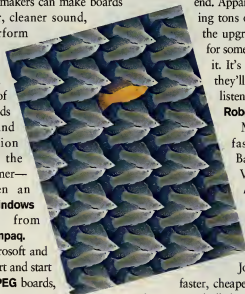
Robert De Niro.

My vote also goes to fast CD-ROM drives. Back home in Silicon Valley, I learned that **Apple** may be getting ready to dump double-speed CD-ROM drives faster than they got rid of


John Sculley. A newer,

faster, cheaper PowerCD could be about to send all those double-speed drives on permanent vacation.

Hey, it doesn't sound too bad. Everybody needs a vacation now and again. A little sun, a little fun, and a lot of raw material. Makes me wish I could spend the year down in south Florida, maybe running a dive boat or teaching scuba lessons. Then again, what would you do without me skulking around the multimedia entertainment industry, digging up the hottest tips at the most exclusive industry parties? And I'll be there. Look for me near the bar.



PHOTOGRAPH BY PAUL MORRELL



YOU'RE IN L.A.
SHE'S IN CINCINNATI.
AND WITHIN THE
FIRST HOUR OF MEETING HER,
SHE'S STRAFED YOU,
YOU'VE SPLATTERED HER, SHE'S
SMEARED YOU WITH BOOGERS
AND YOU'VE KISSED HER
PASSIONATELY.
IT'S THE START OF A
BEAUTIFUL RELATIONSHIP.

Believe it or not, the above scenario is now a reality with ImagiNation™—the world's first on-line multi-player games network. With your PC and modem, you can engage people in classic board and card games, an arcade-style action park (including the new INN 3-D Golf™), fantasy role-playing games, NTN Trivia, or an adults-only casino. Join now and we'll give you a membership kit and five hours absolutely free (just pay \$5.95 for shipping).

After all, you haven't made a true friend until you've shot them first.

IMAGINATION!

Call 1-800-625-5353, ext. 532 now and receive your first five hours free.

Circle 149 on Reader Service Card





Take Control of

Rock 'n' Roll

Interactive technology puts you in charge
of the music you love

EVER SINCE Chuck Berry, Fats Domino, and Elvis Presley burst on the scene some 40 years ago, rock 'n' roll has been changing the world. Now, thanks to interactive CD technology and a growing coterie of technologically savvy artists, the world is finally getting a chance to change rock 'n' roll.

Coming from big-name artists such as Peter Gabriel, Todd Rundgren, David Bowie, and Thomas Dolby, interactive music CDs drum up your involvement way beyond just cranking up the volume or skipping to the next song. They actually let you mold and shape the music and the images that accompany it. The medium is still in its infancy, but it already offers ordinary rock fans their best chance ever to jam with the stars.

As Gabriel is quick to point out, interactive rock 'n' roll is changing the relationship between the artist and the audience. "It's the first real opportunity I've had to allow people to get inside the music and start playing around with it," he says.

"Without years of boring piano lessons," adds Dolby, "most people were resigned to being listeners for the rest of their lives. Now, they can create their own music."

If you are, or ever wanted to be, a rocker, you won't want to miss this wild new experience.

From electric guitars and amps to drum machines, synthesizers, and sampling, rock 'n' roll has always been on the forefront of technology.

By Charles Berman

ILLUSTRATION BY LANCE JACKSON



Thomas Dolby works behind the scenes.

It was 20 years ago today, Sgt. Pepper taught the band to play.—THE BEATLES

Unfortunately, the interactive technology needed to take control of your music comes in a confusing variety of platforms and formats, including DOS, Windows, Macintosh, Philips's CD-I, 3DO, Sega CD, and others. There's no guarantee that the titles you want to hear will play on the hardware you happen to own.

The safe thing to do is to wait until the market shakes out, and no doubt many music fans—and musicians—will do just that. But they'll miss a lot of the fun. At least partly because so few people are listening, the first artists getting involved in interactive rock 'n' roll are free to challenge and innovate. With little to lose, they can push the limits without feeling the pressure to churn out hit after hit. There are no

standards, but there are also no rules.

"It's like the birth of cinema or the birth of television," says Gabriel. "I think there's a great opportunity now...for people to be really brave with the work they do."

Once things settle down, the opportunity for such intense experimentation may disappear. As formats and technologies solidify, so will limits on style and content. By the time a dominant platform emerges, large-scale eco-

Multimedia

Rock 'n' roll has always been more than just music. Besides thrilling to the visceral thump of the bass, rock fans love to pore over album covers and gape at videos. Now, multimedia rock 'n' roll brings CD-ROM-style interactivity to rock's supporting visuals and other background information.

These discs don't include you in the creative process but rather invite you to explore a multimedia comu-

copy of material related

to the music. They can be expanded versions of individual albums or—more commonly—souped-up greatest hits collections. In a sense, multimedia rock 'n' roll provides a new version of the now-obsolete album cover. CD-ROM offers a new platform for lyrics, liner notes, pictures, video, and other information that used to go on 12-inch record covers but can't find a home on 5-inch CD jewel boxes.

Multimedia rock 'n' roll retrospectives offer an unparalleled opportunity for audiences to wallow in a sea of detail about their favorite artists. For musicians, though, they can easily turn into an exercise in self-indulgence. While an interactive Sgt. Pepper might have its moments, for example—one proposal would let you access rehearsal tapes or songs in progress, or

click on each person pictured on the cover—it's not exactly clear what you gain by seeing a video of the car Joe Popstar was driving in 1974.

Ideally, multimedia rock 'n' roll titles offer an easy introduction to interactivity. Ebook's series of retrospective titles, for example, will play in standard audio CD players and reveal their interactive elements when you pop them into your CD-ROM drive.

But no matter where it plays, it's important to tailor the multimedia experience to the particular artist. Take James Brown: Non-Stop Hit Machine. In addition to still photographs and narration, it includes lyrics that scroll along to the music. No disrespect to the Hardest-Working Man, but lyrics aren't really his strong suit—especially when the disc doesn't distinguish the subtleties. You get a generic "uh" whether Mr. Brown is actually grunting a sensual "uhh," a joyous "ueh," or even a soulful "unh." Now that Philips has released a CD-I video-compression cartridge, maybe we can look forward to a more impressive title equipped with full-screen, full-motion video. (Philips Interactive Entertainment; 800-824-2567; CD-I, \$19.98)

Mötley Crüeifixion

Tim Byars, who developed a project called Digital Decadence for heavy-metal bad boys

Mötley Crüe, believes that the connection to the music is the key element. "When you develop an interactive title you need to hook the right people up with the right band," Byars says. "I could do a great job on discs for Danzig or Metallica. But I couldn't do anything for Janis Ian."

Developed in Hypercard, Digital Decadence encompasses a Mötley melange of memorabilia. It includes a complete discography, tour posters and schedules, backstage passes, and every one of the band's videos in both their MTV and "topless" versions. If, as Byars claims, "everyone likes at least one Mötley Crüe song," Digital Decadence may be the only investment



Designed by
illustrator Jim
Ludtke, the
Residents' beautiful but disturbing
Freak Show
lets you peek
into the lives of
the animated
carny dwellers.



I know, it's only rock 'n' roll, but I like it.

— THE ROLLING STONES

nomics will once again determine what gets released, and the more quirky, experimental options may find it hard to get heard. We may have higher standards of quality, but there'll be a lot less variety and innovation. You'll simply download the new Madonna Jr. program, pop it into your home virtual-reality machine, and that will be that.

In the meantime, modern technology is reinventing interactivity in a variety of ways.

Some interactive rock discs are designed to be altered and changed by the listener. Others deliver tools intended to let listeners create their own music. Whatever the approach, the key is to create products that deliver a satisfying musical experience no matter how tone-deaf the consumer.

Bringing interactivity to existing music can be difficult, though, since most musical pieces were never intended to be ripped apart and

put back together in a variety of ways. "It's much harder to retrofit an existing work," explains Ty Roberts, who helped to develop an interactive video disc for David Bowie. "You can't create new information. It's still the same thing. But a computer can provide new combinations."

Peter Gabriel is a multimedia pioneer.



Rock 'n' Roll

that many people ever make in heavy metal.

Ironically, Digital Decadence almost became the first retrospective multimedia rock title out of the virtual chute, but the disc got stuck in the netherworld of record-company bureaucracy. And now advancing technology has already passed by the original version of Digital Decadence. To meet today's technical standards, Byars would have to reengineer the disc.

Resident Memories

The Residents live much farther out on the experimental curve. This notorious San Francisco antiband, whose masked members perform under a cloak of anonymity, has transformed its 1992 *Freak Show* album into an interactive multimedia experience. Like the Residents' music, this truly bizarre yet strangely hypnotic and exciting disc is unlike anything else on the market.



Freak Show patrons can mouse their way into the Big Top to meet a variety of creepy animated characters such as Herman the Human Mole, Wanda the Worm Woman, and Benny the Bump. Each emerges for a quick performance, but there is much more to each freak than what you see onstage. Curious circus goers can sneak backstage into the seamy carry trailers for an interactive look at each personality's story. Freak Show also offers entrance to the Residents' own trailer, where you can order CDs, tapes, and other band paraphernalia.

Designed by illustrator Jim Ludtke, Freak Show is a cross between a game, a graphic novel, and a virtual comic book, with the original album as a soundtrack. Performance is slow,

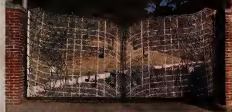
but take the time to get to know this moody and disturbing disc, and you'll feel like you've been to a place quite unlike anywhere you've ever been before. With its brilliantly realized graphics, it's a nice place to

visit, but you'll be glad you don't live there. (Voyager; 800-446-2001; CD for Mac, \$69.95)

At Home in Elvis's House

Crunch Media's upcoming Virtual Graceland (Paul Simon will need to find another name for his multimedia title) takes you on a virtual video

tour of the King's home and final resting place. Play his piano or read his scrapbook to learn about his life. The tour includes almost every room in the estate, including the recently opened car museum, and is narrated by important individuals in the King's life. You'll also get celebrity reminis-



Virtual Graceland takes you inside the gates of Elvis's stately Memphis home.

cences of Graceland, but not a lot of the music that made the man famous. (Virgin Interactive Entertainment; 800-874-4607; CD for Windows/Mac, \$70 to \$100)

Heart Like a Disc

If that's not enough, New CD Music Show has just released *Heart/20 Years of Rock 'n' Roll*. You get 5 hours of mono audio and almost an hour of video chronicling the life stories of Ann and Nancy Wilson. (Compton's New Media; 800-862-2206; CD for Windows, \$49.95)



know your mama she don't like me, 'cause I play in a rock and roll band.

—BRUCE SPRINGSTEEN AND THE E-STREET BAND

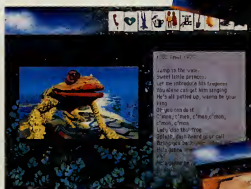
That's why many artists are using digital technology to provide multimedia adjuncts to their existing work, offering listeners a multidimensional musical experience involving videos, interviews, and liner notes. (For more on this interactive MTV, see "Multimedia Rock 'n' Roll," page 48.)

Gabriel's Interactive Trumpet

Peter Gabriel's technological sophistication, theatrical background, and continuing interest in world music and global issues make him a natural for interactive rock 'n' roll. He fulfills that promise in *Xplora 1* Peter Gabriel's Secret World, which offers an artsy jaunt into multicultural world music. Produced by San Francisco-based Brilliant Media, *Xplora 1* is "a marriage of hand-made and high-tech," Gabriel says, deliberately avoiding the science fiction shoot-'em-up style of many CD-ROM projects. The disc consists of four areas, accessed with fire, earth, air, and water icons. The US area offers an in-depth look at Gabriel's densely textured 1992 album, including four full-length

videos, lyrics, interviews, and album artwork. (Clicking on objects in the paintings turns up some interesting surprises.)

Real World takes you



on an interactive video tour of Gabriel's Real World Studios in Box, England.

Behind the Scenes lets you go backstage at a WOMAD (World Organization of Music and Dance) Festival, the BRITS Awards, or even the Grammys—



if you manage to find the backstage passes hidden in various places on the disc.

Personal File lets you poke around in Gabriel's suitcase, checking out his personal stuff. There's a pictorial discography and photos of his childhood.

Click on the snapshots to turn them into home movies. You can even morph his passport photo from baby to corpse. Fill the suitcase with items you find and get some special surprises.

You can also get information about the human rights organizations Gabriel supports, including Amnesty International and the Witness Pro-



Xplora 1 Peter Gabriel's Secret World sets the standard for interactive multimedia rock 'n' roll discs.

ject, which distributes video cameras to human rights activists—illustrated with some very disturbing video footage.

To help you find your way, video clips of Gabriel pop up to give you instructions, advice, and commentary.

Best of all, *Xplora 1* lets you get into the creative act. You can mix your own four-track version of "Digging in the Dirt" in Gabriel's studio, or play eight exotic instruments just by clicking on them in various places.

There's even an interactive world music jam session, coproduced by Brian Eno, with a band comprised of more than a dozen musicians from many traditions. You select two or more and click Play to call up one of 49 custom performances.

All told, the disc contains more than 100 minutes of video, 30 minutes of audio, 100 full-color photos, and a book's worth of text. The video window is small, and the movement is a bit jerky, but access times are quick and the whole package is so well designed that the technical problems seem minor.

Gabriel is clearly taken with the potential of multimedia rock 'n' roll. "I think things

Interactive Rock 'n' Roll Discs We'd Like to See

Interactive Duets (Music) First there was Natalie and her dad. Then there was Frank and a baker's dozen of his closest friends. Now, there's any two you want to hear. You pick the song, you pick the singers. You set the style, you control the tempo. Choose a classic pair like Steve and Eydie singing "Stairway to Heaven." Or maybe the heavy-metal version of Neil Young and Yoko Ono covering "I Got You Babe." Narcissists can substitute themselves for one, the other, or both.

Andy's America (Reference) An interactive journey through the music, culture, and pop songs of our country today. For appeal to all tastes, you can choose which "Andy" will be your guide: Williams (soaring over the Grand Canyon warbling "On a Clear Day You Can See Forever") or Warhol (cruising the Lower East Side humming "I'm Waiting for the Man").

Interactive Woodstock (History) This three-disc set brings back all the excitement of the world's most famous rock festival, one moment at a time. Aside from a complete record of all the performances, you can wander through a three-dimensional representation of the festival site, clicking on everything from muddy playgrounds to mobbed Port-O-Potties. You can watch the show or interact with the crowd, reliving '69 staples from Flat Blue Acid to Flat Brown Rice.



Y ou know her life was saved by rock 'n' roll. —LOU REED AND THE VELVET UNDERGROUND

are really opening up in a very exciting way," Gabriel says. "From now on I'll think of the possibilities of multimedia on everything I do." Gabriel's company hopes to release three more multimedia titles in the next year, and he is already working with producer/musician Brian Eno and performance artist Laurie Anderson to create an interactive experience park in Barcelona, Spain.

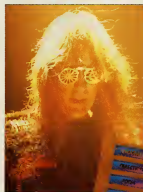
Xplora 1 is available now for the Mac, and a PC version is due out later this year. Look for it in record stores as well as at software retailers. (Interplay Productions; 800-428-8200, CD for Mac, \$59.95)

Todd's New Order

Unlike other interactive rock discs, the music in Todd Rundgren's TR-I: No World Order was written expressly to play under listener control.

Played straight, No World Order is a typical Rundgren album, densely melodic and musically adventurous. But the disc also lets listeners manipulate sequence, mood, and tempo by stitching together its 933 independent 4- and 8-second musical segments. You can't change the actual content of the more than two hours of music on the disc, but the final sound clearly reflects your choices. To show you the possibilities, the disc includes versions programmed by famous producers such as Jerry Harrison and Don Was.

You can play with No World Order for hours, experimenting with new combinations of sounds and musical textures, and Rundgren promises to regularly add new elements—sort of like a software upgrade. (For more on No World Order, see "The First E2 Editors' Choice Awards," on page 61.)



Rundgren, who now prefers to be known as TR-I, has been at the cutting edge of rock technology for years. One of the first to use multitracking without making it



Todd Rundgren breaks new ground with TR-I: No World Order.

sound mechanical, he was producing left-field videos well before MTV even existed. Five years ago, he designed his own object-oriented operating system for the Mac and released one of the first totally digital pop recordings.

But No World Order still represents a new kind of risk. Many listeners may not be attracted by the disc's minimal graphics and nonlinear approach. And the disc runs only on Philips' relatively rare CD-I platform.

It's also a risk for Rundgren. Accustomed to controlling every aspect of his performances, he now relinquishes final control to his audience, counting on their taste and talent as well as his own. In many cases, he will never know exactly what they hear. (Philips Interactive Media; 800-845-7301; CD-I, \$24.98)

Dolby Behind the Scenes

Thomas Dolby is taking a different path. Instead of working on a CD-ROM release of his own, he has been writing soundtracks for computer games. And last fall he linked music to virtual reality in an art exhibit at New York's Guggenheim Museum SoHo.

Interactive History

It's not usually a good idea to force interactivity on existing songs. But some material seems to cry out for a new approach:

1. **Louie, Louie—The Kingsmen.** Endless variety on a three-chord theme. Dub in different versions. Find out what the lyrics really say. Make up your own.
2. **Frankenstein—The Edgar Winter Group.** Mix your own collection of themes and sound effects.
3. **Give Peace a Chance—The Plastic Ono Band.** Add new voices to a suitable worldwide anthem.
4. **Wipe Out—The Surfaris.** Wreak havoc on the famous drum solo.
5. **In-A-Gadda-Da-Vida—Iron Butterfly.** Dito.

Funded by Intel and possibly slated for a tour of museums around the country, Dolby's Virtual String Quartet lets museumgoers in VR headsets move through a virtual rehearsal space where animated representations of the Turtle Island String Quartet play Mozart's Quartet no. 21 in D Major. They can cozy up to the virtual musicians and even tickle them into adding



Thomas Dolby combines music with virtual reality in his Virtual String Quartet art installation.

jazz or bluegrass improvisations. Dolby's installation won't show up in your living room, but it foreshadows the character of future home entertainment systems.

Interestingly, one of Dolby's goals in creating his interactive work was to "remove the star element." With desktop rock, Dolby says, "someone who's a typist and

Don't Bury Manilow—Yet

We presented developer Steven Rappaport, president of San Francisco's Interactive Records, with a radical idea: producing an interactive title for music industry whipping boy Barry Manilow. "It would be fairly easy," said Rappaport. "You could drop out the vocals, bring in an online piano teacher, include some interactive sheet music, and teach music theory. And you could show how 'Could It Be Magic' was based on Rachmaninoff."



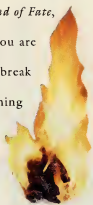


KISS CONVENTIONAL LOGIC GOODBYE

Now you see it. Now you don't. The land of Kyrandia is disappearing piece by piece and all the evidence points toward one perilous conclusion: a curse. Thus begins *The Hand of Fate*, second in the *Fables & Fiends* series, where you are



the offbeat, young mystic who must voyage to the center of the world to break the spell. Out of sync and out on foot, your aberrant journey reveals nothing is what it isn't. And one hand. Literally. Conspiring to push



the twisted edge of cinemagraphic entertainment, Westwood Studios has designed more puzzles and gameplay in the first few chapters of



The Hand of Fate
The Legend of Kyrandia
advanced graphics



than in all of
The most

on the market are first pencil tested, then painted on-screen to surrealistic perfection. Breakthrough



Trulight technology
ically for a fuller, fourth



Shadow



Sunlight

illuminates each scene more cinematically. The new



Grasp *The Hand of Fate* and kiss conventional logic goodbye.

over 50 characters to change your mind, mood and mayhem based on preceding events. Don't just play with your mind. Change the way your mind plays.

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THE HAND OF FATE

Westwood
STUDIOS

WESTWOOD
STUDIOS
A
Virgin

could fall asleep at night as a rock and roll star. —DAVID BOWIE

has some imagination has a chance to be as good a musician as I am."

Star Quality

Several programs are already exploring the concept of making you the star. Rock, Rap 'N Roll is perhaps the most fun. This animated sampling machine lets you make music in several different genres by stringing together prerecorded rhythms, riffs, licks, and vocal bits. You can also play along in real time. Rock, Rap 'N Roll may not turn you into a great composer, but it's a blast. You can make delightful noise for hours. (Paramount Interactive; 800-821-1177; CD for Windows/Mac, \$79.95; Windows/Mac, \$59.95)

In a similar vein, So You Want to Be a Rock 'n Roll Star lets you deconstruct six classic pop tunes—"Twist and Shout," "Stand By Me," "Sittin' On The Dock of the Bay," "Runaway," "In The Midnight Hour," and "Crazy"—dropping components in and out. You can remove the singer from the mix, display the lyrics, and enjoy animated karaoke without the loud drunks and the smell of spilled beer. You can also pick up background info and answer trivia questions.

While it's great fun to play around with these standards, dissecting them also provides a new understanding of how this kind of music works. Take apart the I-IV-V progression of "Twist and Shout," for example, and hear the similar pattern in "Owner of a Lonely Heart." (Ebook; 510-429-1331; CD for Windows/Mac, \$49.95)

Video Visions

To the MTV generation, rock 'n' roll is more than music—it's also video images, animation, and eye-popping visual effects. Not surprisingly, many new interactive rock 'n' roll titles concentrate on the video portion of the equation, letting you create your own videos to go with your favorite tunes. While the song remains the same, the goal is still

to find a way to make the audience part of the creative process.

Ty Roberts, who codeveloped Jump: The David Bowie Interactive CD-ROM, says interactivity is the key: "We're not going to succeed in this business if we don't provide anything beyond what you can do with videotape."

The Mac-based Jump disc goes beyond the MTV experience by letting you cut your own video for Bowie's "Jump They Say" song from his new *Black Tie White Noise* album. Instead of watching what the director picks, you choose images from five sources (vocal, performance, narrative, graphics, and symbols) that play in parallel with the song. Select Record, then switch among the five feeds in real time to create the perfect accompaniment to the music. When you've created the ideal video, you can save the results on floppies.

In addition to letting you direct your own video, Jump lets you wander through a number of rooms in a virtual hotel, clicking on various items to call up other Bowie videos, behind-the-scenes photos, and several surprises. The Mac CD-ROM may come in both single- and double-speed versions.

A Windows version is due later this year. (ION, 310-312-8060; CD for Mac/Windows)

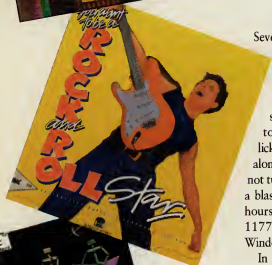
Pop Rocket's Total Distortion, on the other hand, turns video production into a game. In this futuristic scenario, players begin by directing their own videos, but the real challenge is to negotiate your way through a maze of music-business impresarios to sell it. The game includes 50 pieces of original



Rock, Rap 'N Roll lets just about anyone make joyful noise that sounds surprisingly professional.



David Bowie's Jump disc lets you cut a real video in real time.



So You Want to Be a Rock 'n Roll Star lets you get inside your favorite songs.

Ten Habits that Mean You Need Interactive Rock 'n' Roll

1. Skipping to the song you like.
2. Listening to one verse over and over.
3. Singing along with records.
4. Singing along at concerts when you're supposed to (and when you aren't).
5. Lip synching and playing air guitar.
6. Stringing different musical passages together to make dance tapes.
7. Using records and turntables as an instrument (scratch mix).
8. Reading *The Lives of John Lennon* at a Paul McCartney concert.
9. Yelling out for "Whipping Post" at an Allman Brothers concert.
10. Yelling out for "Whipping Post" at a Paul Simon concert.

Real Ordinary



ReelMagic



There's more to games than a mouth that sort of moves or tinny sound. Now there's a new way to play PC games that's just like sitting in a theater controlling the action with your joystick.

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ReelMagic Adapter



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"The best product of its kind I've seen all year."

Gina Smith
Editor-in-Chief,
Electronic
Entertainment
Magazine



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7th LEVEL

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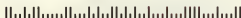
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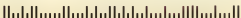
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Hey, hey, my my. Rock and roll will never die.

—NEIL YOUNG

music, and you can save your videos to floppy disks for posterity. (Electronic Arts, 800-245-4525; CD for Mac, \$99)

Finally, just to prove that interactive rock videos can be mass-market items, child prodigy Marky Mark and rapper Kris Kross last year unleashed titles in the series *Make My Video*. This year, rockers INXS have a similar title on the shelves, called *Make Your Own Music Video*. (Sega of America; 800-872-7342; Sega CD, \$59.99 each)

Creative Kids

Interactive music software may hold the greatest appeal for children. Boom Box from Dr. T's Music Software and SuperJam! from Blue Ribbon SoundWorks are leading this growing market.

Boom Box lets kids—or adults—mix and

record drum, bass, and synthesizer patterns along with solo sequences and a variety of sound effects. It lacks the variety of genres and professional sound of Rock, Rap 'N Roll, but it's easy, fun, and lets kids get started with making music. (Dr. T's Music Software; 800-989-6434; DOS, \$29.95)

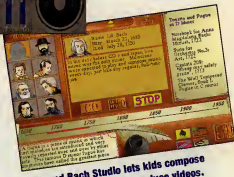
SuperJam! lets anyone write their own songs using presupplied melodies and chord progressions and play them with sampled sounds in more than 20 styles from classical to cutting edge. You can also create your own chords and styles to truly personalize your compositions. (Blue Ribbon Sound-



Boom Box makes it easy for kids to make music.



Video Jam makes your kid the MTV video director.



Rock and Bach Studio lets kids compose songs, form bands, and produce videos.

Classical, Jazz, and Other Niche Markets

Of course, rock 'n' roll isn't the only musical genre amenable to interactivity. Back in the 18th century, Wolfgang Amadeus Mozart invented the Dice Game. Players throw dice to determine which of 11 musical phrases will occupy each of a minuet's 32 bars. Each random sequence creates a new composition. The possibilities are almost endless, with 1,116 different outcomes.

You can play the composer's game electronically in Mozart, A Musical Biography. Click on the electronic dice and then hit Play to listen to your new minuet. Mozart developed the Dice Game on paper. Imagine what might have happened if he had access to a multimedia computer. (Phillips Interactive Media; 800-824-2567; CD-I, \$19.98).

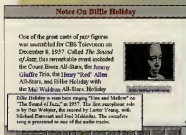
Other nonrock titles include series of discs produced by Ebook that play on audio CD players and reveal multimedia enhancements on CD-ROM equipment. Designed as a nonthreatening introduction, Vivaldi's "Four Seasons" can simply display seasonal photographs and paintings in time to the music. More active listeners can choose to learn about the piece itself, analyzing which notes represent rustling leaves, barking dogs, and a sleeping goatherd. The "Masterpiece Theater" theme will never be the same. (Electronic Arts; 800-245-4525; CD for DOS, \$24.95).

Works; 800-226-0212; Windows, \$129)

Video Jam from EA Kids lets kids direct their own animated videos, assembling bits of prepackaged music, backgrounds, props, talent, dance moves, and special effects into a finished video. Kids can save the videos and share them with friends, even on computers that aren't equipped with the program. (EA Kids; 800-245-4525; DOS, \$49.95)

Rock and Bach Studio is another product geared to kids raised on MTV. It lets youngsters compose songs, assemble virtual bands, and produce videos in a variety of styles. (Binary Zoo; 800-521-6263; DOS, \$34.95)

In the long run, interactive music software for kids will deliver more than just momentary amusement. "If I was a 15-year-old kid in high school today," Dolby says, "I don't think I'd buy an electric gui-



Ebook's Billie Holiday and Count Basie titles work on audio CD players and CD-ROM discs.

Other Ebook titles cover Louis Armstrong, Count Basie, and Billie Holiday (Compton's NewMedia; 800-862-2206; CD for Windows, \$29.95 each) as well as Duke Ellington (Time Warner Interactive Group; 800-482-3766; CD for Windows, \$39.99).

One reason for the emphasis on long-deceased classical and jazz musicians is the freedom from hassles over rights issues. After all, dead men don't file lawsuits.



Total Distortion offers an intro to the music business.



Even Marky Mark does interactive CDs.

When the music's over, turn out the lights. —THE DOORS

tar. With [a computer] you can do some serious damage."

Cool as they are, these early attempts at interactive rock barely hint at what is possible. As the tools improve and skill levels grow, we can expect to see plenty of compelling releases that excite the imagination and challenge

the intellect. We can also expect to see some real garbage, where interactivity is grafted on like a third leg. Developer Ken Rose, who hears daily rumors about new interactive titles, says "a lot of people are putting out new CD-ROMs just because they can—not because they have anything to say."

That's one reason interactivity will remain an option for the album of the future, not a replacement. Many artists will want to leave

the creative process just the way it is. As Todd Rundgren puts it, "I don't think interactivity is on Nirvana's agenda."

That's okay. Rock 'n' roll ought to have room for everyone. After all, even listeners who are enthusiastic about taking part in the music they listen to may not want constant control.

Sometimes, you just want to put down the mouse and dance.

Coming Soon, to a Drive Near You

Everyone is talking about interactive rock 'n' roll, but real commitments are harder to come by. Says developer Ken Rose, "every day I hear about something new, an interactive product from some big star. Most of them don't even get out of the demo stage, if they get that far." The Bowie, Rundgren, and Gabriel projects, for example, were publicly discussed for a year prior to their release, and most people in "the business" will wait and see how these initial efforts are received before investing time and money.

Nevertheless, the second wave of interactive titles may contain some of the following: DEVO: The Complete Truth About De-evolution, a revisionist history of the band including music, video, and interviews (Voyager; 800-446-2001; LaserDisc, \$49.95); Surf City, an interactive trip to the beach from Sidewalk Studios (for CD-I), including original surf-era tunes licensed from Capitol Records;

A History of Motown, from U.K.-based Spice Media, that will allow you to click on a particular year and call up the events and hits that made it memorable; and a Bob Marley CD-I title from Philips that's billed as the "ultimate interactive documentary."

Ebook's interactive music CD series, which plays on both audio CD and CD-ROM drives, will add a new disc by Run C&W, tentatively titled Row vs. Wade. It will include bluegrass covers of soul, R&B, and Motown hits put together by the Eagles' Bernie Leadon. Due out soon, the disc will be sold through traditional record stores for about the price of a standard audio CD (MCA Records/Nashville; CD for Mac/Windows). Finally, watch for a look

back at San Francisco Rock in the sixties hosted by Jefferson Airplane vocalist Marty Balin (Time Warner Interactive; 800-593-6334; CD for Windows). Compton's, meanwhile, is still negotiating to create a Beatles retrospective and will distribute a RoundBook Publishing title based on the 25-year history of the Who's Tommy.

And younger bands are finally getting into the act. According to one source, the hottest property is Depeche Mode, with dozens of developers pitching demos to the band. Closer to commitment are Irish rockers the Cranberries, who are working with Island records to put out a CD-I disc in early 1994. Rhythm King Records will produce an interactive sampler of its alternative groups, including the Sultans of Ping, Ugly, and CNN. Rhythm King's disc will play in a standard CD, reveal multimedia aspects in a standard CD-I, and deliver full-motion video in CD-I players equipped with video-compression cards.

This multiformat approach, where different hardware supports varying degrees of interactivity, provides an easy transition into multimedia rock. Interactive Records' SuperCDs, for example, will contain four to six songs that you can listen to in a standard CD player or CD-ROM drive. No titles have yet been announced, but look for the first releases later this year (Interactive Records; 415-285-8650; Windows/Mac).

As the medium begins to establish itself, we should see a wider variety of talent and titles by the end of 1994. Composer Thomas Dolby predicts that many record companies will look to multimedia rock 'n' roll as a way to market their material. "It's a new canvas," says Los Angeles-based media consultant Ted Cohen. "All the technological issues are addressed, now the record companies need to determine what it's worth."

They are DEVO.



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THE FIRST
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EDITORS' CHOICE AWARDS

The world of interactive electronic entertainment is changing so fast that today's top dog can quickly become tomorrow's has-been.

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We don't care.

We're doing it anyway.

WHICH MULTIMEDIA titles, games, and hardware really push the envelope? Which products lead the pack in technology, performance, and just plain entertainment value?

After looking at literally hundreds of products, we found the answers. We selected winners in seven highly competitive categories:

Best Game, Best Multimedia Title, Best Edutainment Title, Best Platform, Best Peripheral, Best Design, and Best Virtual-Reality Experience. To qualify as proven entries, the products had to be on the market by the end of 1993.

And recognizing the speed of technological change, we

also selected 1993's Breakthrough Game, Breakthrough Multimedia Title, and Breakthrough Hardware. Superstar or shooting star, these three products offer features, functions, or concepts that significantly advance the state of the art.

Finally, our Most Promising award commends a technological development that, while not embod-

ied in specific hardware or software, will have a major impact on new multimedia entertainment products.

All our winners—from Bests to Breakthroughs—set new standards in electronic entertainment. So *E2* is proud to give them the glory they so richly deserve.

EDITED BY FREDRIC PAUL

BEST PLATFORM: Dell Dimension XPS 466V Multimedia PC



With all the multimedia computers and entertainment machines flooding the market these days, choosing the top entertainment platform was incredibly tough.

Does technology make best platform? Titles? Market share? We considered all three and settled on Dell's Dimension XPS 466V.

Unlike a lot of PCs, this package looks and feels engineered from the ground up, not patched together with whatever component was cheapest that week. With 8MB of RAM, 128K cache, double-speed CD-ROM drive, Sound Blaster 16 sound card, #9GXE local-bus graphics accelerator card, and 15-inch monitor, it combines fast performance, hot graphics, good sound, and great reliability—all for less than \$3,000.

The Dimension's only failing is its tinny Labtec speakers. The substandard speakers didn't cost Dell many points, though, since almost everyone is using the low-cost Labtec speakers these days. That's something that has to change: Sound is too important to be left to amateurs. (Dell Computer; 800-289-3355; \$2,925)

BEST MULTIMEDIA TITLE: J.F.K. Assassination: A Visual Investigation



More than 30 years after the fact, thousands of movies, books, and magazine articles still haven't been able to decipher the myth and mystery of the assassination of John Fitzgerald Kennedy. Medio's J.F.K. Assassination: A Visual Investigation brilliantly employs multimedia technology to let you conduct your own investigation of the tangled web of fact, fiction, and conspiracy theory surrounding this fateful incident in American history.

J.F.K. Assassination begins by re-enacting the killing with original radio announcements, the Zapruder film, and still photographs. You can check out supplemental information in a variety of ways: Scan 35 minutes of video, peruse the complete Warren Commission report, or flip through a library of background facts concerning hundreds of figures linked to the event, from Fidel Castro to J. Edgar Hoover. The hyper-text and graphical links create the perfect structure to explore the interwoven details.

Pulling it all together are a series of analytical animations simulating various theories and scenarios. The product, developed by Wilbur Films Multimedia, presents its own analysis, but the multimedia tools make it possible to draw your own conclusions. (Medio Multimedia; 800-788-3866; CD for Windows, \$59.95)

BEST GAME: X-Wing



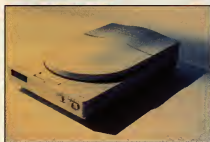
The movie magic of *Star Wars* and the flight-simulator expertise of veteran game designer Larry Holland combined to make X-Wing 1993's best game—by a long shot. This *Star Wars* simulator gives an entire generation exactly what it's been waiting for: a chance to play in the starfields of the Force and the vast galaxy of Luke Skywalker, Princess Leia, and the sinister Darth Vader.

Set in a time just before the original movie's setting, X-Wing can turn anyone into a heroic Rebel Alliance pilot, flying and fighting in more than 50 death-defying missions. The culmination of the game? The historic Death Star Trench Run and its one-in-a-million shot into the exhaust port—the Death Star's only weak point.

In addition to a wonderful theme and timeless plot, X-Wing is also a remarkably well executed game. It runs on almost any PC. And on action-packed missions ranging from easy to diabolically difficult, it's so much fun to master the controls of the various fighters that you forget you're not actually hanging on the tail of an Imperial assault gunboat or making a solo attack run on a massive Star Destroyer.

Among the many great games released this year, X-Wing stands out due to its compelling experience and its universal appeal. (LucasArts Entertainment; 800-782-7927; DOS, \$69.95)

BEST PERIPHERAL: NEC MultiSpin 3Xp CD-ROM Reader



Everyone agrees that the portable triple-speed 3Xp is as cool as CD-ROM drives come.

Once it gets up to speed, the 3Xp reads data with a throughput of some 450K per second—50 percent faster than typical double-spin drives. That makes a huge difference in animation and video: Images appear noticeably less jumpy and jerky.

The 3Xp's physical design also makes it a winner. Playing audio CDs is a breeze with the front-mounted controls, and an LCD panel delivers helpful info such as track number and disc diagnostics. Top-loaded like a portable audio CD player, the 3Xp doesn't require an annoying caddy like CD-ROM drives designed for business users.

And because it's portable, you can take the 3Xp from office to home by just unplugging a cable. Even better, attach the optional battery pack and listen to your audio CDs while on the way. You even can attach the drive to your portable computer to turn your notebook into a multimedia machine.

For a little more than \$450, you get all this packed into a slick case in computer-standard beige or granite gray. That adds up to way more than cool. (NEC Technologies; 800-632-4636; PC/Mac, \$455)

BEST EDUTAINMENT TITLE: Arthur's Teacher Trouble

© Mr. Buthorn corrected their papers during lunch. "Class," he said, "most of you did very well on the test. But only two of you spelled every word correctly." Muffy smiled. Francine blinched. Buster patted his good-luck charms. Mr. Buthorn cleared his throat. "Our class representatives for the spelling bee will be the Brain and Arthur."



The most captivating thing about Arthur's Teacher Trouble—the best installment in Brøderbund's excellent Living Books series—is how kids immediately identify with the characters and the story.

Anyone who's ever been to school can relate to the strict teacher, the pesky little sister, the class brain, and the stressful school spellathon. And Arthur is the adorable underdog, the quiet, nice kid who perseveres despite his own insecurity and proves that hard work does pay off.

On the surface, Arthur's Teacher Trouble is a fun and surprising animated story that comes alive with each click of the mouse. Posters leap off the walls, cars drive, fruit dances, cookies sing—and that's just for starters. But Arthur's story also teaches listening, reading, and spelling skills as children read along with the story, learning some of the very lively words on our hero's spelling list in both English and Spanish.

Perhaps what's most valuable about Arthur's Teacher Trouble is the story itself, written by children's author Marc Brown. It offers children and parents a positive role model, not to mention a useful moral: How did Arthur win the spellathon? P-R-E-P-A-R-A-T-I-O-N! (Brøderbund Software; 800-521-6263; CD for Mac/Windows, \$50)

BEST DESIGN: Macintosh TV



There isn't a college student alive who wouldn't kill to have one of these babies in the dorm room.

For that matter, the sleek, black Macintosh TV, which combines a 68030-based multimedia Macintosh and a TV set, meets a need we'd all like to have filled.

Equipped with a double-speed CD-ROM drive, 5MB of RAM, and a 160MB hard drive on the Macintosh side, this is also a full-function television that includes its own cable-ready tuner and remote control. You can even attach the Mac TV to a VCR, LaserDisc player, or video game deck. Special software lets you grab video frames and paste them into your software applications. You also get a good collection of bundled software, from ClarisWorks to Space Shuttle. Best of all, the entire all-in-one package costs only a little more than \$2,000.

The Mac TV's 14-inch monitor is typical for computers, but it seems puny by current television standards. On the other hand, the Mac TV's small footprint means the machine will find a home on even the most crowded desktops. The only real problem is choosing between playing Hell Cab or watching Letterman. (Apple Computer; 800-538-9696; \$2,079)

BREAKTHROUGH HARDWARE:

ReelMagic MPEG board



It wasn't so long ago that upgrading your PC to show full-motion, full-screen video meant spending a fortune in hardware. No longer. Sigma Designs has broken the video barrier with its affordable ReelMagic video-compression board.

One of the first sub-\$500 video-compression boards to hit the market, ReelMagic conforms to the Moving Pictures Experts Group's standard. That means any PC game, multimedia title, or CD-ROM-based movie that works with MPEG can work with the ReelMagic card.

Titles that already support the MPEG standard include such hits as *Return to Zork*, *Lord of the Rings*, *Video Cube*, *Dragon's Lair*, *WorldView*, *Under a Killing Moon*, and a special MPEG version of Compton's *Multimedia Encyclopedia*. All these titles deliver smooth video covering the full screen, with picture quality comparable to broadcast television.

As anyone who's ever squinted at a postage-stamp-sized video window on a PC already knows, full-screen video is a real luxury. And now, thanks to ReelMagic and support from a handful of visionary game makers, that luxury is within your reach. (Sigma Designs; 800-845-8086; PC, \$449 including Activision's *Return to Zork*)

BREAKTHROUGH MULTIMEDIA TITLE: TR-I: No World Order



Todd Rundgren's new release for Philips's CD-I system will never break into the Top 40, but it is a preview of a new kind of musical medium.

Unlike any other recording ever made, *No World Order* lets listeners affect the music they hear. The disc uses a unique control system to let you influence seven "flavors" of how the music sounds, including Program, Direction, Form, Tempo, Mood, Mix, and Video.

You can listen to Rundgren's original version, check out the four versions created by veteran producers, set up your own preferences, or make changes as you listen.

The whole thing is possible because of Rundgren's decision to compose *No World Order* as a pastiche of over 900 distinct musical phrases. The flavor settings control how and in what order those segments are played.

But be warned: This challenging disc is not easy listening. Breakthroughs rarely are. As Rundgren writes in the liner notes, "You can do some very abnormal things to the music. Don't be surprised if it sounds quite different from what you are used to experiencing." (Philips Interactive Media; 800-824-2567; CD-I, \$24.98)

BREAKTHROUGH GAME: The 7th Guest



When Graeme Devine and Rob Landeros first started to create CD-ROM games at Trilobyte, they had no idea what they were getting into.

They didn't realize they'd be reinventing computer game development—learning to model, morph, and animate in three dimensions. And they had no clue they'd end up as much moviemakers as game developers, combining live action with rendered backgrounds.

They'd be the first to admit that the project got a little out of hand. But tens of thousands of animation and video frames and thousands of hours of post-production work later, they produced *The 7th Guest*. This gothic horror tale unfolds as you explore the supernatural mansion of Henry Stauff—a man whose evil will animate the house itself. Stauff places ever more puzzling obstacles in your way as you seek to solve the mystery of the mansion.

The 7th Guest combines incredible 3-D-rendered animation with live actors—most of whom play dead people. Each room of Stauff's mansion is rendered with incredible realism and detail, with surprises at practically every turn. The graphics, special effects, and intriguing story line work together to make *The 7th Guest* the first truly compelling interactive CD-ROM game. (Virgin Interactive Entertainment; 800-874-4607; CD for DOS/Mac, \$99.99)

BEST VIRTUAL- REALITY EXPERIENCE:

BattleTech



When you play BattleTech at the carefully managed Virtual World centers, the aura of reality takes hold the moment you walk in the door. Unlike a cheesy arcade, Virtual World has an adult atmosphere, complete with a bar and uniformed attendants who refer to players as "pilots." Instead of throwing novices to the veteran wolves, games begin with a well-produced orientation session laying out the options and controls.

The game itself is no slouch either, pitting eight heavily armed and armored robotic Mechs against each other in a futuristic landscape. Sitting in an enclosed BattleTech cockpit is not quite as enveloping as helmet-based virtual reality, but the terrific graphics, fast action, and great game play make for a satisfying experience.

When the 10-minute game ends, it's back to the Victorian-style Explorer's Lounge for a video recap and a printout of exactly what happened when. Virtual-reality technology is getting better all the time, and BattleTech proves that it's already good enough to deliver a great time. (Virtual World Entertainment; 818-973-4200; in Walnut Creek, Calif.; San Diego; and Chicago. Additional centers due soon in Dallas, Detroit, Los Angeles, and San Francisco.)

MOST PROMISING: QSound Virtual Audio



Forget Dolby SurroundSound. The hottest new audio technology around is called QSound Virtual Audio, and once you hear it you'll never go back to the boring two-dimensional sound you're used to.

Virtual Audio, from Canada's QSound Labs, is a technology that allows games and multimedia titles to emit ultra-rich three-dimensional sound. The effect is so realistic, you'll swear the sounds are coming from behind or even above you—instead of out of the two speakers next to your computer. That's the magic of it: Thanks to the audio "illusion" it creates, QSound enables developers to precisely place sound in space around you. You really have to hear it to believe it.

Best of all, QSound performs its magic without requiring extra hardware. In fact, you can't even buy QSound. Instead, many major hardware and software makers are scrambling to announce support for QSound in their newest products. Using special Digital Signal Processor (DSP) audio chips, IBM will incorporate QSound in its newest workstations, Sega will put the technology into its Sega CD add-on, and Creative Labs will support 3-D sound with its Sound Blaster peripheral technology. Over the next few months, you can expect dozens of titles to take advantage of it. And that sounds good to us. (QSound Labs; 403-291-2492)

HONORABLE MENTIONS

Our eleven winners represent the cream of the crop, but they're not the only noteworthy products to hit the market last year. The products listed below earned Honorable Mentions for their innovation, quality, and fun. You can't go wrong with any of them.

Best Game

SimCity 2000 Maxis's new version of its original city simulator adds stunning graphics and interesting new features.

IndyCar Racing This driving game from Papyrus Publishing is so realistic, A.J. Foyt could use it to practice—without burning any gas.

Best Multimedia Title

Rock, Rap, 'N' Roll This Paramount Interactive title lets anyone string together prerecorded audio clips into what sounds remarkably like music.

Best Platform

Performa 550 Apple Computer's integrated, affordable, multimedia Macintosh combines ridiculously easy setup with a great bundle of software.

Best Peripheral

ACS300 Speakers With clamshell satellite speakers and a powerful subwoofer, Altec Lansing delivers computer sound with no apologies.

Best Design

Memphis From its sleek trapezoidal speakers to its matching external CD-ROM drive, Media Vision's complete multimedia solution looks as good as it sounds.

Best Edutainment Title

3-D Dinosaur Adventure Knowledge Adventure uses 3-D graphics to dress up its already impressive dinosaur program.

Breakthrough Game

Myst One of the best-looking, best-sounding games ever, the Macintosh version of Myst sets new standards for the effective use of CD-ROM.

Breakthrough Hardware

Cyberman Logitech's innovative combination of mouse and joystick offers control in six dimensions, plus true tactile feedback.

Best Virtual-Reality Experience

Virtuality With new centers opening across the country, Virtuality's helmet-based virtual-reality system will define the concept for many people.



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Circle 40 on Reader Service Card



A Tale of Three Cities

SimCity 2000 lets you build a city that reflects your personality

Playing God—or Mayor, for that matter—ain't what it used to be.

Building and managing your own unique SimCity has always been more than a game, more than a matter of who makes the most money or figures out the ultimate zoning mix. When you build a city, it becomes a manifestation of who you are. It's what you fantasize about. It's how you feel.

But in *SimCity 2000*, a sequel to the classic that's even more powerful than the original, you can express yourself like never before. To demonstrate the flexibility and power of the new version, we asked three veteran city builders to try their hand at constructing their vision of the ideal urban area.

Chris Bence built Christon, aiming for natural beauty and environmental sustainability. Matt Kim designed Mattropolis as a high-density paean to efficiency and order. And in a vain attempt to outsmart the simulator, Ocean Quigley built Harsh City, which he hoped would launch itself into outer space. Turn the page to take a look at the results.

By Caleb John Clarke

Christon

WHEN CHRIS BENCE STARTED PLANNING CHRISTON—"The Small Pretty City"—her goal was to build a place you'd travel through and say "I'd love to live here."

Bence likes to go camping, so she started with lots of mountains, trees, and rivers. Then she created Power Island. The idea was to construct a clean power source way out in the ocean, so nobody would have to live next to an ugly, dangerous power plant. Power Island features large, symmetrical waterfalls for hydroelectric power and two large plateaus to hold windmills and microwave generators. When it became clear that Power Island supplied

SIMTIP: Parks raise property values only in the four-tile area around them. So it's better to scatter small parks around the city rather than putting them together.

more than enough power for Christon, Bence scaled back the island to a single plateau.

The main city nestles comfortably on a flat plain between the ocean and a majestic mountain range. To make sure everyone knew whose city it was, Bence added a large area of virgin forest with a lake in the form of a giant C—for Chris—right in the middle.

Next came College Island: two universities, a little light commercial and industrial development, its own power source, and some high-density residential areas for the dorms. The only way to get there is to sail, and bicycles rule once you arrive. Bence believes that college and cars don't mix. And in a nod to her San Francisco Bay Area home, Bence tossed in her own Alcatraz island, complete with prison. It'll be good for tourism later.

When a SimCity's population reaches 2000, you can place the Mayor's house anywhere you want.

SIMTIP: Be careful when you build subways; you can't blow them up to get rid of them. Avoid mistakes by putting in the stations before laying the track.

SIMTIP: Bus stations reduce traffic better than subways and rail systems.



Bence planned ahead and cleared a small site high up on the tallest peak for her official residence. Only one road leads to this Olympian hideaway, and it comes with its own private lake (complete with marina and even an island for really quiet getaways) and a private zoo. The Mayor's house has its own windmill to provide power, too. (Bence hates power lines.) For shopping convenience, there's a small town about halfway down the mountain.

To make things pleasant for

SIMTIP: Some buildings let you microsimulate. Schools can tell you how many students are attending and what kind of education they're getting. But each city is limited to 150 micro-simulation buildings.

SIMTIP: Hydroelectric and wind power work great in remote places where you don't want to run ugly—and costly—power lines.

SIMTIP: Do as much planning as possible in the terra-forming stage. Scatter waterfalls for future hydroelectric power plants, plan your grids, and leave plenty of buildable space.

the hoi-polloi in the city itself, Bence built a coastline suitable for small beach house communities, general stores, and fishing docks. She modeled these districts on some New England beach towns she'd seen while vacationing in Maine.

To avoid parking and congestion problems, Bence built Christon's airport on an island in the ocean, connected to the city only by rail links—an attractive arrangement, and it's fun to watch the trains rumble over the bridges. Finally, Bence added an upscale satellite community on the other side of the mountains. She liked the idea of a secret city only the hippest Sims could find. Besides, she wanted to dig a tunnel through the mountains.

On the seventh day, Bence looked at the city and its wonders and saw that it was good. Then she rested while the simulation continued to run. When she returned, she saw that her restless flock had plummeted her approval rating to zero, but the town had \$3 million in the bank.

Mattropolis

BEFORE ATTEMPTING TO BUILD HIS OWN CITY, Matt Kim spent hours carefully observing other players create their own visions. He read the manual twice and practiced optimal grid utilization on graph paper.

Once Kim began playing, he trashed his first nine practice cities. Only then did he start work on his ultimate creation, dubbed Mattropolis.

Mattropolis is divided into 12 boxes separated by one-tile-high, waterfall-edged crosses.

The waterfalls are for hydroelectric power, water pumps, and—though he hates to admit it—aesthetics.

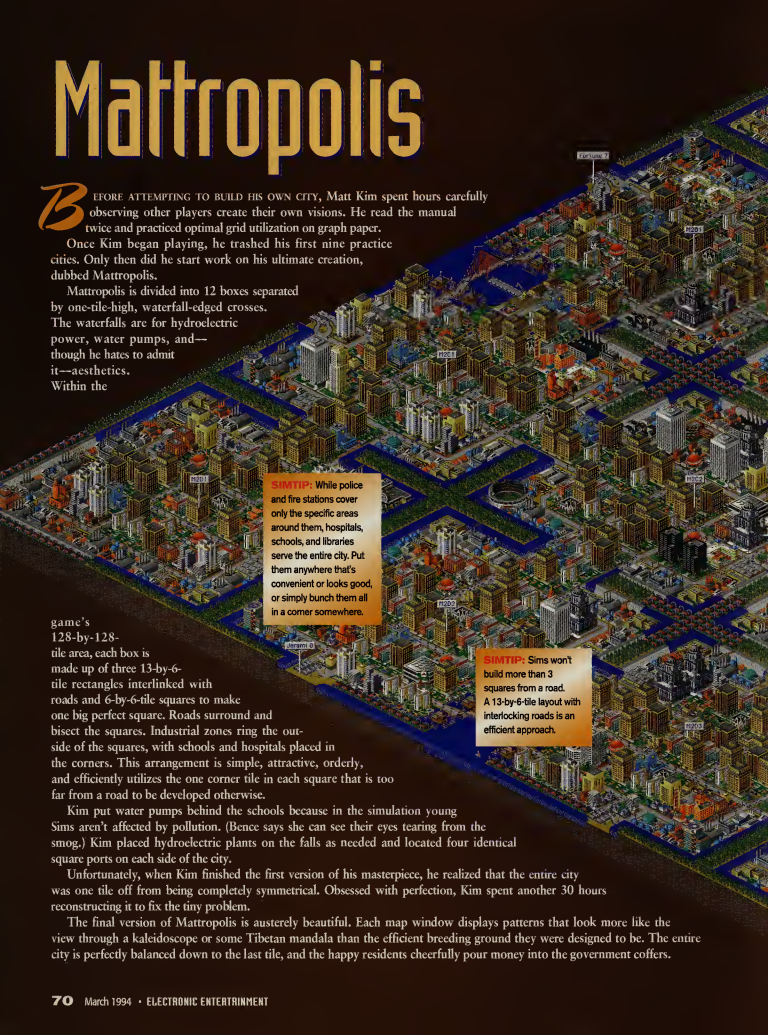
Within the

game's 128-by-128-tile area, each box is made up of three 13-by-6-tile rectangles interlinked with roads and 6-by-6-tile squares to make one big perfect square. Roads surround and bisect the squares. Industrial zones ring the outside of the squares, with schools and hospitals placed in the corners. This arrangement is simple, attractive, orderly, and efficiently utilizes the one corner tile in each square that is too far from a road to be developed otherwise.

Kim put water pumps behind the schools because in the simulation young Sims aren't affected by pollution. (Bence says she can see their eyes tearing from the smog.) Kim placed hydroelectric plants on the falls as needed and located four identical square ports on each side of the city.

Unfortunately, when Kim finished the first version of his masterpiece, he realized that the entire city was one tile off from being completely symmetrical. Obsessed with perfection, Kim spent another 30 hours reconstructing it to fix the tiny problem.

The final version of Mattropolis is austere beautiful. Each map window displays patterns that look more like the view through a kaleidoscope or some Tibetan mandala than the efficient breeding ground they were designed to be. The entire city is perfectly balanced down to the last tile, and the happy residents cheerfully pour money into the government coffers.



SIMTIP: While police and fire stations cover only the specific areas around them, hospitals, schools, and libraries serve the entire city. Put them anywhere that's convenient or looks good, or simply bunch them all in a corner somewhere.

SIMTIP: Sims won't build more than 3 squares from a road. A 13-by-6-tile layout with interlocking roads is an efficient approach.

SCENARIO STRATEGIES

SimCity 2000 includes several specific scenarios of common urban ills. Here's how to handle them.

Charleston: Pause the game. Build water pumps in the swamps, then rebuild the connections to other cities and put more ramps on the freeway system. Then let the simulation run, keeping taxes low while you create dense zoning in areas damaged by the hurricane.

Dunville: Pause the game. Lower taxes to zero until the population is big enough to make you money. Then build dense using 13-by-6-tile zoning. Take out a bond if you have to.

Flint: Click on the book for property taxes, and set industrial taxes to zero. Find a good hangout and wait.

Hollywood: Control the fires the monster sets and after he leaves, lower property taxes to zero. Then go see a movie.

Oakland: Control the fire using bulldozers to clear a fire break and just ignore the Sims' complaints. Then set taxes as low as you can and build dense in the empty area by Lake Temescal.

SIMTIP: Highways sit on their own phantom four-square grid, so you can't just plop them down anywhere. This can be a real problem when the highway grid doesn't match up with the space available in a developed city.

SIMTIP: Avoid diagonal roads and rail lines. They're wasteful.


SIMTIP: Don't overspend. Remember, your power plants blow up every fifty years. If you don't have enough cash to replace them you'll find yourself back in the Dark Ages.

Kim created his stunning municipality with a lot of patience and a few clever tactics. His key rule: keep taxes low and build dense. In fact, he developed an opening strategy for fast growth: Set taxes at zero for each new city's first 15 or so years since the population is so small. You won't collect much money in the beginning anyway, and the Sims move in so much faster with no taxes. Matriopolis' only quirk? There are no zoos. Kim didn't get to go to them as a child, and he felt that his namesake city could get by without them, too.

Harsh City

OCEAN QUIGLEY TOOK A PERVERSE APPROACH in designing his city: He hoped to create an environment that would encourage the resident Sims to form self-contained communities that would eventually take off into space. This Exodus process is one outcome of Maxis's SimEarth simulator, and Quigley hoped to duplicate it in SimCity 2000.

This expectation isn't as unreasonable as it might sound. SimCity 2000 includes a new feature called an Arcology, a sort of self-contained city within the city. One of the four types is called a Launch Arcology. Because of the word



SIMTIP: To get rich "quick," save your game and then let it run overnight. Just make sure you've deployed the police and fire departments and turned off the disaster function.

SIMTIP: Politics aside, military bases are good for quelling riots, fighting off monsters, and boosting commercial zones.

"launch" in the name and the last sentence in the Launch Arcology dialog box—"build enough of these and you may discover the final secret of SimEarth"—Quigley assumed that if he built enough Launch Arcologies, they would spontaneously begin the Exodus process.

Quigley started with totally flat terrain, the only water being a three-tile-thick border for ports and water pumps. He added marinas only because the Sims demanded them. The city's zoning layout consists of a 13-by-6 grid of interlocking tiles surrounded by roads. Initial power came from coal-fired generating plants—who cares about the pollution? Eventually, when he needed more power, he replaced the coal-burning power stations with a pair of clean but expensive fusion plants.

To keep pollution down in his high-density city, Quigley scattered low-density industrial zones among residential areas. He stressed education, but only to stimulate industry.

The goal was to push population in order to support the Launch, and with SimCity 2000's three-quarter perspective view, it soon became hard to find the Mayor's house and City Hall among all the tall buildings.

As soon as Harsh City was big enough to allow Launch Arcologies, Quigley's sole priority became putting them in prime

sites. To raise the money to build the Arcos, he let the city run on its own overnight. With Harsh City's huge tax base, he sat down to breakfast with a cool \$30 million.

As Quigley put in more and more Launch Arcologies, he noticed that the city was slowly becoming nothing but Arcos, police stations, and schools. He was sure

SIMTIP: Type CASS (for SimCity designer Will Wright's daughter, Cassidy) and you'll get \$250, but you'll also face a 1 in 18 chance of a major disaster hitting the center of your grid. The old Shift-FUND cheat that garnered a cool \$10,000 in SimCity has been made honest. In SimCity 2000 it issues a bond at a whopping 25 percent interest.

SIMTIP: Find the right zoning ratios. Two residential to one commercial and one industrial is a good rule of thumb. As your city's Education Quotient goes up you'll need fewer industrial zones.

SIMTIP: Use low-density zoning to lower pollution and raise land values.

Exodus had to happen soon.

But when Harsh City's population hit 5 million and no launches had taken place, he called Maxis's technical-support line.

To Quigley's horror, the tech representative said it was all a joke. There is no Exodus in SimCity 2000! He added that future revisions of the game might change the offending message in the Launch Arcology dialog box.

Crushed, Quigley immediately loosed a space monster on Harsh City hoping to destroy it. "Eventually I'll build my ultimate city," Quigley promises, "which will look more like Nova Scotia."

how i became a

THE GLORY and the BLOOD



PC moviemaker

The Multimaniac tries
his unsteady hand at editing
his own video.

QUIET ON THE SET, PLEASE.
I'm putting the finishing touches on
my first video production, a mini-
epic of swords and sorcery entitled *The Glory
and the Bloody*. Frankly, I don't have a clue
what I'm doing or what the film is about, so I'm
asking you to be quiet so that I can concentrate.

Oddly enough, up until a few weeks ago, I never
even thought about becoming a moviemaker. I fig-
ured that writing was my life's work—perhaps sup-
plemented here and there with music making, or
maybe playing with computers.

Of course, I've always loved movies. I know all the
words to *It's a Wonderful Life*, and I know the identi-
ties of the man behind the curtain and the man in the
iron mask. Back when I lived in New York, I could
discuss postmodernist German cinema with the best
of them.

Still, I never thought I'd actually be a filmmaker. I
always figured I lacked too many of the prerequi-
sites—such as a camera, film, a cast and crew, and, of
course, a film-editing console.

Enter the PC, Stage Left

Foolish me. I should have known. If it's worth hav-
ing or worth doing, it'll eventually show up on the PC.

For video, that eventually is now. You don't have
to have a camera anymore to
make movies. You don't need a

set, or actors, or a multimillion dollar budget (okay,
the moolah would still be nice). You don't even need
an editing deck or certification from the Motion
Picture Association of America. All you need is a fast
Windows PC with a speedy CD-ROM drive and a big
hard disk—and the right software. Luckily, I've got all
of the above.

The best software I've encountered for getting
started in the Hollywood life is MediaMerge (ATI
Technologies; 905-882-2600; Windows, \$299),
which lets me edit video and audio clips, animate text
titles, merge video clips into digitized movies, and
even play back my video creations.

It also comes with a CD-ROM disc stuffed with
more than 300 animations, video clips, and digitized
sounds. These came in handy. Without a camera, I
had to rely on found material for my production of
The Glory and the Bloody, and the public-domain
material on MediaMerge CD-ROM offers plenty of
possibilities, if you approach it with the right creative
bent—or with a bent creativity.

You're probably figuring that *The Glory and the
Bloody* is some Ted Turner-esque Civil War epic, but
you couldn't be more wrong. It's a much more subtle,
intellectual creation than that—a morality play that
uses a fencing metaphor to convey a bleak yet humor-
ous message about the futility of man's struggle
against the void.

How did I choose fencing as the vehicle for this
extremely arcane message? Well, the truth is that I liked
the fencing clips on the MediaMerge CD-ROM disc.
But if you'd rather think of it as an oblique homage to
the brilliant Zen masters who taught meditation
through archery, you won't hear a peep out of me.

I also found the tutorial in
the MediaMerge manual

by paul bonner

uniquely insightful. It offers all kinds of hints and insider tips that even moviemaking pros could benefit from—given what I've seen coming out of Hollywood lately. For instance, it cautions that you should try to make your video creations interesting, and that content can be a valuable addition to nearly any video project—although I think that kind of stuff would just bog down *The Glory and the Bloody* (simply not acceptable for a less-than-a-minute-long feature). Plus there's a lot of techno-babble about timing and pace and the use of transitions. You know. The kind of stuff that separates David Lynch from the rest of us.

MediaMerge uses Microsoft's Video for Windows as the underlying technology to display digitized video clips. Windows stores these clips as AVI format files, but MediaMerge also works with Apple QuickTime for Windows' MOV format, animations saved in Autodesk's FLC or FLI formats, still images stored in BMP, DIB, TIF, TGA, PCX, EPS, WMF, or GIF formats, and audio recorded in WAV or VOC formats. That made it easy to take advantage of the wealth of images, animations, and video and audio clips floating around on bulletin boards and various CD-ROMs when I was looking around for additional footage for the second reel of *The Glory and the Bloody*.

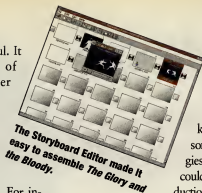
Making the Scene

Production of *The Glory and the Bloody* started with MediaMerge's Scene Editor, which lets you mix and overlay any supported source files to create individual scenes. The Scene Editor works with up to 16 tracks of video or sound. So, when I wanted to give my movie a title sequence—one where the opening credits come rolling up over attractive background footage of dying mimes, accompanied by a stirring Wagnerian audio track—I figured it would be easy. I'd just use the Get command to add the mime suicide footage to track 1, add the automated text sequence to track 2, and put a digitized sound clip on track 3. Then I'd click the Produce

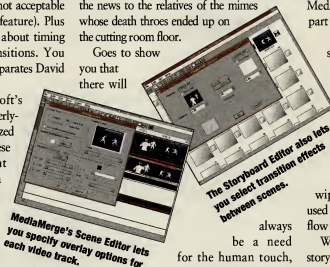
button and voilà—my title scene would be complete.

If that sounds too simple, you're right. It is. I had to perform a grueling series of house-keeping duties—some mundane, some requiring all my creative energies—before my opening sequence could achieve true MTV-quality production values. For instance, my background video track was much longer than the audio track that I'd chosen to accompany it. I solved the problem by using the Scene Editor to cut some frames out of the video clip. Then I had to steel myself to break the news to the relatives of the mimes whose death throes ended up on the cutting room floor.

Goes to show you that there will



The Storyboard Editor made it easy to assemble *The Glory and the Bloody*.



MediaMerge's Scene Editor lets you specify overlay options for each video track.



The Storyboard Editor also lets you select transition effects between scenes.

always be a need for the human touch, even when dealing with mimes. But lucky for me, MediaMerge makes all the technical parts of the job remarkably simple. Most of the time I just dragged-and-dropped or pointed-and-clicked to achieve the effects that I wanted.

MediaMerge also includes a Text Animator—which I used to create *The Glory and the Bloody*'s opening title sequence and closing credits—and an Audio Editor that can apply such special effects as fade-ins and fade-outs; volume changes; cross fades that cut the volume of the current file and fade in an audio selection from the clipboard; reverbs; reverse and inverse transitions, ad infinitum. *The Glory and the Bloody*, for example, makes extensive use of vocal tracks played in reverse. It doesn't sound all that great, but I figured that years from now, when the critics look back at this picture as the start of my brilliant career, it'll give them a nifty riddle to puzzle over.

Telling the Story

Once I'd created a few dozen scenes of scintillating swordplay, replete with video overlays and dancing text and pulsating sounds, it was time to put them together to tell my story. You've probably heard famous film makers say how this is the hardest part of all—arranging an endless number of scenes shot out of sequence into a coherent whole, making sure that the transition from scene to scene is smooth and that the story unfolds at exactly the pace needed to maintain its internal rhythm. Well, all I can say is that they're all a bunch of whiners, because MediaMerge's Storyboard Editor made this part a piece of cake.

The Storyboard Editor is basically a sequencer. It sets the order in which scenes appear in the finished video and specifies the transitions between each scene. Like the Scene Editor, it has a simple drag-and-drop interface, so I was able to rearrange scenes as quickly as the muse struck me. For transitions, the Storyboard Editor offers a variety of wipes, dissolves, and meltowns, stuff I used to bring a natural yet densely cinematic flow to *The Glory and the Bloody*.

When I finished assembling my complete story, it was time to produce a final AVI file. MediaMerge offers many options here, including frame size, frame rate, compression method, and image quality. The truth is that no matter which options you select, the AVI file will be huge (a minimum of 1MB per 6 seconds of video) and it will take MediaMerge a long time to create it (10 to 15 minutes for a 30-second video). But it's still a lot of fun, and you can't beat the end result. I'm the only person on earth who can sit back and enjoy a special screening of *The Glory and the Bloody* anytime I want.

In any case, my moviemaking career is still in its infancy. Next on the agenda is a good video-capture board, which will let me capture live-action sequences from my VCR and a video camera, if I had one. But that's for later. Right now, it's time for the 8 p.m. screening of *The Glory and the Bloody* at the PC multiplex. Gotta go.



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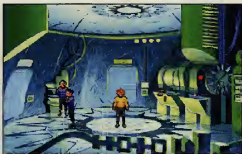
Star Trek: Judgment Rites

By Peter Olafson

In *Star Trek: Judgment Rites*, Interplay goes where it's gone before. If it ain't broke, don't make Scotty fix it—and *Judgment's* predecessor, *Star Trek: 25th Anniversary*, certainly wasn't broken. *Judgment Rites* captures that indefinable quality that made the original *Star Trek* series such a classic, and that's just the beginning.



Cataclysm! A starship's destruction sets off the first episode in *Star Trek: Judgment Rites*.



The second episode of *Judgment Rites* involves alien machines, and lots of them.

Like *25th Anniversary*, *Judgment Rites* is actually two games. The first takes place on the bridge of the *Enterprise*; the second takes place everywhere else. And, as always, the *Enterprise* crew continues to outwit helpless computers and wears uniforms that look like pajamas. Even the episode titles have that classic *Star Trek* ring: "Though This Be Madness," "Museum Piece," "No Man's Land," "Sentinel."

Take the Helm, Captain

Aboard the *Starship Enterprise*, where you'll explore a great half-circle of space, everything's handled from the bridge. You click with the mouse—or press a designated hotkey—to activate a particular officer. Spock's there for cool-headed advice; to access the library computer, and for target analysis during combat; engineer Scott handles repairs; and Mr. Sulu steers the helm. Chekhov controls the navigation and weapons stations and Uhura the communications console. Choosing Kirk himself allows a party to leave the ship, take a peek at

the results of previous missions, and exercise various game options.

Functional and true to the spirit of the show, the *Enterprise* bridge is where you get information about the plot by exploring the library or listening to Spock's advice. You'll also navigate space and, depending on how you set the combat options at the beginning of the game, you may have to engage in some dogfighting as well.

Elsewhere—on a planet's surface, in the corridors of a space station, at the heart of an alien complex—you're basically controlling Kirk within a more familiar graphic-adventure setting. Spock and Bones tag along to provide expertise and repartee. You move from location to location, interacting with the environment with the aid of a

little Da Vinci-like torso, clicking on its eyes to look, one hand to use, the other to take anything not nailed down, and so on. The puzzles are rigorous and interwoven, and there's typically more than one objective per scenario and more than one level of success. Bet you can't play an episode just once!

Be sure to talk to your comrades at every opportunity, for the dia-

logue is delightful and frequently very funny.



GAME-WINNING TIPS

You'll be tempted to play the game almost exclusively with Kirk; Judgment Rites is built that way. Don't. His colleagues have specific gifts that you should call into play wherever possible.

You'll frequently be offered options in conversation—some brash, some unfocused and experimental. Keep a cool head. It seems to elicit the best reaction overall. (And Spock would approve!)

Always talk to your cohorts at each new location. Their lines will frequently change, and even if they don't offer solid suggestions, it's lots of fun to have the boys banter.

Save often. There's a great deal to do in each episode and much of it may elude you the first, second, even the third time through. With saved games as way points, you won't have to hammer your way through the whole scenario each time.

Confine the violence to the starship exchanges. Fire with phaser on stun. Don't blow things up without first learning what they do.

I don't even want to guess how many episodes of the series the four writers—Scott Bennie, Elizabeth Danforth, Mark O'Green, and Mike Stackpole—must have watched and rewatched to get in the mood, but clearly they've been living and breathing the stuff, and the timbre and nuances are just right. Once again, Kirk struts about like a rooster. The half-human/half-Vulcan Spock and the all-too-human McCoy exchange words wry and tart. Scotty says he doesn't know how much longer the ship can take it. Chekhov insists the Russians invented everything of consequence. Consider this bit from "Federation."

Spock: Captain, I estimate the odds of finding and destroying Breddell's doomsday weapon at 186 to 1.

Kirk: That's better odds than usual.

Spock: I am factoring in your record at performing nearly impossible feats, Captain. Otherwise, the odds would be 8,552 to 1.

Kirk: What would I do without your encouragement, Spock?

Spock: I cannot speculate, Captain.

The whole scene plays in my head exactly like an episode of the original series. It's this sense of authenticity that warms the cockles of any Trekkie's heart. And of course the music's all spot-on. It feels just like the real thing, even from your PC sound card.

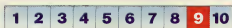
Bigger is Better

I don't want to give the impression that this game is just a 26th Anniversary—simply that what worked well in the first game continues to work well here. The size is new, for one thing. If 25th Anniversary came in for any criticism, it was for its shuttlecraftish dimensions. Judgment Rites is enormous, with twice the number of discrete locations and none of the first game's sense of compressed space. Also new is the emphasis on cinematic production values. Judgment Rites has a powerful repertoire of special effects. I don't want to spoil anything, but let's just say your eyes will pop and you'll echo Kirk's "My God!" when you see the opening sequence to the first mission. It has the sort of grim spectacle associated with good movies.

Qualms? None of consequence. I do wish they'd allow the player to break up the party on occasion and redirect Spock and McCoy independently of Kirk. It's the one false note here. The two follow the captain around like puppies, sacrificing interesting possibilities for puzzles dealing with time, speed, and synchronization.

But that's a question of untapped potential, and not a criticism of Judgment Rites per se. Fact is, I couldn't find anything much I didn't like about it. True, it isn't exactly a breakthrough product, as 25th Anniversary was when it first appeared. But it's now more substantial, deeper, and more durable. As a good tactician like Kirk would tell you, you don't have to break away when you have your phasers locked on something as solid as this.

Beam me down, Scotty: There's definitely intelligent life here. (Interplay Productions; 800-969-4263; DOS, \$59.95)



Judgment Rites captures the feel of the original show, down to the nuances of dialog. Other than Kirk, though, the characters in the game aren't used to their fullest potential, so there's room for improvement.



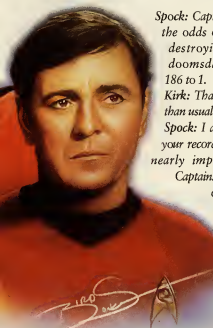
Chekhov offers his opinion in the wake of an encounter with an Elasi ship. (Everyone offers an opinion in Star Trek.)



Kirk, Bones, and Spock in the brig aboard Espoir Station. Maybe they could talk their way out.



The Starship Enterprise pulls alongside the Espoir Station research lab in the first episode.



Frontier: Elite II

By Peter Olafson

Games without frontiers—a delightful idea, but to date it's been no more than a song lyric. Go far enough in one direction in a computer game, and you'll eventually arrive at an impassable barrier: a dungeon wall, a raging sea, a screen that won't scroll, or a stubborn parser that won't take "north" for an answer.

But now there's *Frontier: Elite II*. Fans of the original *Elite* will recognize the premise behind this sequel. Travel star lanes in search of cargo. Buy low, sell high. Build a reputation, improve your skills, upgrade ships and weapons. . . . If you've got the right stuff, you'll become one of the *Elite*.

Like *Elite I*, *Frontier* is open ended—you're limited only by what money can buy and the range in light years of your hyperdrive. There are profits to be made by buying low on one world and selling high on another, and dozens of missions for hire. But the only true goal is improving the human condition (specifically, yours). You can buy better ships, up to the top-of-the-line 400-ton Panther



GAME-WINNING TIPS

You need to make quick, easy money. Try trading robots on BirminghamWorld (near Barnard's Star), then sell them at any station orbiting Earth or the moon. Get some luxury goods and return to BirminghamWorld. Repeat the process and save your money. If robots are in short supply, substitute computers.

Before hitting the stock market, check in the BBS for someone offering to buy robots. They'll be offering double market price, and you can make a real killing.

Here's a dangerous but very effective way to get an enemy ship in your sights: Make the ship your targeted destination and let the navigation computers do the work while you finger the trigger.

stations (M. Gorbachev?) on the way out again, I felt sad at parting, but somehow encouraged, as though I'd had a happy glimpse of our future.

But getting there is all the fun in this polygon-based 3-D space trading game as you explore *Elite II*'s unlimited world. Try this: Call up the quadrant map of the Core Systems, then push it into the background until you can make out just the names of the closer systems. Scroll the map left to right and watch new stars appear.

Now, pick out a system and zoom in until the dot fragments materialize as component planets.

Pick a planet, and zoom in again. If you can pick up a surface settlement, you'll find factories, skyscrapers, tiny suburban houses, and snow-capped mountains beyond. *Frontier* seems as boundless as space and life itself. I suppose it could be argued the thousands of planets in here must be the product of

some set of mathematical formulas. And there may be an invisible line out there somewhere, in some deep recess of starless space, in which the universe of *Frontier* begins to fold back upon itself.

But if there's a formula, it was written with a very personal touch. And if there's an edge, I couldn't find it. For all intents and purposes, *Frontier* really is a game without frontiers. (Gametek; 305-935-3995; DOS, Amiga, \$59.99)



The stock market—the place where you'll buy and sell most of your cargo in *Frontier*.



Looking backward from your ship after leaving hyperspace at your destination system.



A giant ship hangs quietly off Lave Station in *Frontier*. Blow it to kingdom come, or go on your way?

Clipper. With better ships, you'll also want top-notch equipment and crews as you pursue a career as a merchant, a pirate, a bounty hunter, an adventurer, or any combination thereof.

I See the Future . . .

I played a tourist, trading just enough to keep the ship fueled, flitting from system to system. Once I even crept home to Earth to see what had become of it by the 33rd century (a tough trick, because it turns out that Earth moves very quickly in orbit). A storm system was gathering over northern Africa, and night was creeping up on New York, but most of the great old cities were still there (New San Francisco?) along with the polar ice-caps. Thankfully (and surprisingly), the planet was still green. Passing the three detailed orbiting space



With so much to do, so much to see, you could have lively game play for years. At the same time, the game's graphics are sometimes a bit ugly and the use of sound a bit thin.

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Romance of the Three Kingdoms III

By Barry Brenesal

The Mongols did it, but that was a long time ago. Now it's your turn to conquer all of China in Romance of the Three Kingdoms III, KOEI's latest simulation of diplomacy, economics, and war.

It is around 200 A.D., a time of political chaos in China. The venerable Han dynasty has lost power and prestige, and many strong, capable leaders are competing for the Dragon Throne. Pick one of 18 leaders to guide you through 6 historically based scenarios to finally claim the throne. If you don't want to play one of the original leaders, create one of your own.

Although you can play each scenario individually, the complete campaign offers a strategic adventure through the historical reshaping of China. By the sixth scenario, only four leaders (at most) will remain alive and active. In the later scenarios, each leader commands more officers and larger territories, with grander strategies and bigger battles.

It's Who You Know

Relationships are the key in Romance III. They'll determine who will trade or ally with you, and who will threaten, invade, or try to trap you. Your leader's skills will attract different types of free agents to serve as generals and civil officers in your growing empire. You also have to set tax rates, buy weapons and ships, spy, search for valuable artifacts...and the list goes on. Note, too, that your actions affect your reputation. Does your leader break treaties at opportune moments? Do you ruthlessly exterminate enemy generals captured in battle, or add them to your ranks? Choices like these help determine your fate.

Wars are conducted in turns and fought on isometric battlefields. Variables include the strengths and weaknesses of officers in charge and the training, morale, and weaponry of individual units. But treachery is a factor as well: Some officers will switch sides, particularly if their loyalties are low.

It's this sneaky, underhanded diplomacy that distinguishes this game. Send a forged letter to a rival officer, and try to cause a rift between him and his ruler. Persuade a rival's governor to rebel. Use gold or gifts to steal away your opponents' officers. Sound like fun? Just remember, your computerized opponents employ identical tactics.



Past KOEI simulations were praised for their depth and criticized for their graphics. But the stunning high-res, 256-color VGA graphics of Romance III will silence the critics. Each character has a distinctive appearance, and the map of China subtly shifts colors with the seasons. There's no animation, but you won't miss it with this kind of artwork. (KOEI Corporation; 415-348-0500; DOS, \$69.95)

GAME-WINNING TIPS

If you want to start in a good financial position with a powerful character, take on the persona of Sun Ce in the first scenario. Only Cao Cao is stronger, but he's surrounded by enemies.

Recruit an intelligent free agent to act as your chief advisor as soon as possible. The smarter he is, the more accurate his advice will be. He can prevent drastic mistakes that will cut short a brilliant career—yours.

Don't neglect free agents with low ratings. They can still furnish extra punch in a battle and do the drudge work that frees up your better men for tougher missions during peacetime.

Exchange supplies with other friendly rulers. It's a good way to build up dwindling stocks when the merchant isn't available, and the rates may be more favorable.

1 2 3 4 5 6 7 8 9 10

Romance III is a must-have for any dedicated strategist or role-playing aficionado. The different rulers and randomized game play will keep you coming back even after you've finally ascended the Imperial Dragon Throne.



Natural disasters like locust plagues only add to the feeling of open-ended play.



Dazzling VGA graphics make Romance of the Three Kingdoms III a treat for the eyes.



Relationships are key as you try to trade and negotiate your way to the top.

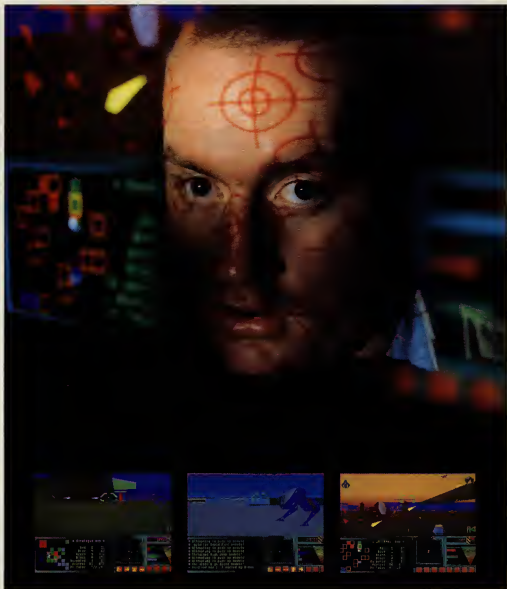
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Unnatural Selection

By Rusel DeMaría



The lab is where you get to create your super Theroids. Here the populations are separated by walls.



Loading up a small copter with a mixed bag of Hulks, Slugs, and Zips.



Here's your commanding officer. He's passing the buck to you.

Playing Unnatural Selection from Maxis made me feel like one of Macbeth's witches. I wasn't using any eye of newt or powdered bat tongue, but the feeling of something a little unsavory hung over me as I cranked up the radiation to cause rampant mutations and destroyed hundreds of innocent but flawed creatures in my quest for genetic superiority.

Unnatural Selection is schizophrenic. On the one hand, there's the laboratory (called Independent Research). On the other, there's the strategy war game (called Top Secret). Either way you play, everything starts in a genetic engineering lab loaded with equipment for making creatures called Theroids. The three basic Theroid types are Zips, whose main characteristic is speed, Slugs (stamina), and Hulks (strength). Creatures also have genetic ratings for vision and momentum as well as three "needs"—to fight, to mate, and to eat. By selective breeding, you create creatures with the genetic characteristics you want.

As you sort through your Theroids, eliminating the weak and the diseased, you may get some unpleasant genocidal twinges, but you persevere in the name of science. Sorting a population of 2000-plus Theroids can be pretty slow on anything less than a 486. Dull as it may be, sorting through the database is the way to create the super-Theroid of your dreams. It's also the way that you'll probably first encounter a Beast—the fourth, dominant Theroid type.

GAME-WINNING TIPS

If you don't go into battle when the Colonel calls the first time, you'll have to go the second time, and you'll fight in Expert mode.

You should be breeding Beasts by Island three or four. Otherwise, you probably won't be able to win the game.

To breed Beasts fast, remove food from the Slugs and Hulks and encourage the Zips at the beginning. Then breed for Fight and Mate. Try to keep Eat around 100. Take your best Beast prospects and put them in the empty Hulk and Slug pens.

Build walled pens to keep small, experimental populations separate. Then, as they become more robust, trash the walls and let them roam.

The Other Side

Once you've mastered the intricacies of the lab, you'll take on the Top Secret mission. The build-up, which includes digitized speech and some semi-animated photos, establishes a story line about a renegade scientist and her nasty Theroid armies. You're placed in a stripped-down lab with small, penned populations of Zips, Slugs, and Hulks. You must work quickly to breed a strong army before the Colonel calls you into battle.

Once you're actually in the battle, the whole game changes. Now you must load various helicopters and send troops and supplies to the infected islands. Strategies range from very simple to very difficult and depend a lot on the success of your breeding program. Each island gets progressively harder, so you must work quickly between battles to improve your Theroids, creating a viable population of Beasts as soon as possible.

Unnatural Selection won't win any awards for graphic quality or sound. The claymation sequences are disappointing, and the rest of the graphics and sound are pretty basic.

What compels in this game is not looks but imagination. It's not for everybody, but Unnatural Selection kept me happily intrigued for several days. The war game is challenging, particularly the struggle to create an awesome fighting force under severe time pressure. Save often so you can correct mistakes, because you'll probably have to go back to the drawing board from time to time. (Maxis; 800-336-2947; DOS, \$49.95)

1 2 3 4 5 6 7 8 9 10

Unnatural Selection got my attention and kept it—for a while. Though the graphics are nothing to write home about, both the lab and the war game are challenging.

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Chessmaster 4000 Turbo

By Barry Brenesal

Like a good challenge? Or do you just like to win? With Chessmaster 4000 Turbo, you can have it either way. Show no mercy and thrash the worst amateur of all time. Or learn a little humility from reigning World Champion Garry Kasparov.

Chessmaster 4000 Turbo for Windows is computer chess at its best. Fast, versatile, and attractive, this is a solid, serious chess player's game that can even discuss your strategy with you afterward like a good human opponent.

The "design-your-own-opponent" feature isn't new to this release, but, with 24 design parameters, it is much expanded over Chessmaster 3000. For instance: How aggressive do you want your adversary to be? How deep is his knowledge about past chess games? How original is his play?



The Surreal Board takes an affectionate poke at Salvador Dali.

What value does he place on each of his pieces? And if you don't want to create your own nemesis, play one of the many enclosed personalities—there's a veritable Hall of Fame, with immortals like Edward Lasker and Josef Reti, and modern geniuses like Bobby Fisher and Anatoly Karpov. Or if you're feeling intimidated, try Newcomer or Woodpusher.

In the past, excellent computerized adversaries meant extra-long pauses while a chess program checked its extensive database. Not anymore: the Turbo in Chessmaster 4000 Turbo refers to its new 32-bit TASC engine. This chess program is surprisingly fast, even with the database throttle opened all the way to Grand-



master level. Set it to think about its next move during your turn, and chances are you'll never have to wait on a computerized opponent again. Even so, we recommend a fast 386 or 486 with a good extended memory software cache like

SmartDrive or PC-Kwik.

That faster engine pays off in Chessmaster 4000 Turbo's Natural Language Advice (NLA). The time spent generating an explanation in standard English for Chessmaster's advice has decreased dramatically. NLA can even analyze an entire game in several minutes, discussing the strategems and mistakes of both players.

Choose Your Set-Up

Configurability is another area where Chessmaster 4000 Turbo surpasses all competition. It supports five notational systems, side switching, blindfold, tournament, and modern games. It uses ASCII files to export and import move lists or board positions. You can save annotations, practice classic opening lines, and study the enclosed chess tutorials written by Garry Kasparov himself.

In addition, Chessmaster 4000 Turbo is an attractive game. Its overall look suggests a 1930s Art Deco radio cabinet, complete with dark walnut paneling and sleek lines. You expect to click one of the round, white settings buttons and get a live broadcast of the Benny Goodman Orchestra. (Big Band is available in the accompanying music, as are classical and New Age selections.)

Chessmaster 4000 Turbo provides both 2-D and 3-D boards, and chess sets to match your state of mind and mood. You can change the boards' sizes, isometric angling, and colors as well as combine them with a variety of windows displaying advice and mes-



If you're a hard-core chess player, the War Room's for you.



For an oriental touch, there's the Far East layout.

The Artificial Intelligence of the Masters

There are lots of settings to help define the opponent of your choice in Chessmaster 4000 Turbo. It's interesting to see what they reflect about the leading players.

The Kasparov style, for instance, prefers to attack whenever possible (Attack/Defense rating of -70) and is tops in strength of play (100%). He always seeks the best move without concern for novelty (0 on Randomness factor). He's learned (100 on Book Depth) and has a fairly high contempt for a draw (2.5, on a scale from -5 to +5). He thinks about moves while you do (the Deep Thinking switch).

Chessmaster's Kasparov has a very high concern with overall positional strength (80 on a -100 to 100 scale that covers material versus positional). He struggles valiantly for control of the center (140 out of 200) and sets high value on maintaining the mobility of his pieces (160 out of 200). King safety and pawn weakness are matters of less concern to this player (70 out of 200 in both cases). Kasparov puts moderate emphasis on developing passed pawns (100 out of 200). His relative point assignments to different pieces are fairly conventional: 9 points to the queens, 5 to the rooks, 3 to the bishops and knights, and 1 for pawns on either side.

This last set of figures matches those of Kasparov's most hated adversary, Anatoly Karpov. But there are some significant differences elsewhere. Karpov plays a more defensive game: 30, as opposed to -70 for Kasparov. Their rated strength is equal: 100%. Karpov also has no built-in randomness—he strives for the single best move in any situation. He disregards unpromising lines more often than Kasparov (8 on Selective Search, versus 6 for Kasparov) and accepts draws more often (1.5 versus 2.5). He also thinks while you play.

Karpov puts equal emphasis on the material and positional value of a piece (50). He sets only moderate value on control of the center (100) and maintaining mobility (100), since he's more concerned with building up tight, complicated positions. King safety isn't much of a concern (80 out of 200), but pawn weakness really bothers him (160 out of 200). He likes passed pawns and their implicit threats (120 out of 200).

How accurate is all this? Very. These statistics were developed by analyzing many of the players' games, which are part of Chessmaster's database. Think about that when you consider cranking Chessmaster 4000 Turbo up all the way.

sages. There are also eight customizable backgrounds. My favorite is the War Room, complete with Staunton chess set, chess clocks, updated moves list, and separate displays of all legal moves, captured pieces, and the computer's current think lines. Although you can customize any background, only one can be saved with the game.

The user's guide is adequate, but skimpy on details. The separate owner's manual is actually a history of chess, very good on 19th- and 20th-century developments. Its older material, however, is riddled with misinformation—not surprising, since its sources procured a number of facts from Stalinist-era, Soviet bloc publications. For instance: "By 1000 A.D., Christianity was established in Russia, and the Church there immediately made a concerted and unsuccessful effort to discourage chess playing"—so reads the owner's manual of Chessmaster 4000 Turbo.

But there are no records of any attempt made by the Russian Orthodox church to halt chess, successful or unsuccessful. As one church deacon

put it to me, "We had invading Mongols, wandering Hun tribes, and then the Muslim jihads converting towns at the point of a sword. Why worry about a board game?"

Stunning visuals, extensive artificial personalities, remarkable playing strength, and excellent natural language advice—you get it all in Chessmaster 4000 Turbo. The box claims it's "still the finest chess program in the world." You'll get no argument here. Chess doesn't get any better than this. (The Software Toolworks; 800-234-3088; Windows, \$59.95)



Chessmaster's Natural Language Advice system gives detailed and intelligent suggestions.

1 2 3 4 5 6 7 8 9 10

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Sid & Al's Incredible Toons

By Wayne Kawamoto

Sid and Al's Incredible Toons from Dynamix combines the logical game play of The Incredible Machine with wacky animated cartoons—Rube Goldberg meets Wile E. Coyote. Balls careen down ramps, seesaws flip objects like circus acrobats, hens lay eggs, men run on treadmills, and the cat eventually gets it in the kisser with an anvil.

You hosts play cat and mouse (Sid's the mouse) through 90 puzzles. The tasks seem simple—dropping an anvil on

Al's schnozz or feeding Sid a piece of cheese. But to accomplish these modest goals, you must construct a variety of convoluted machines from a rather odd collection of spare parts.

Sid & Al's Incredible Toons is in many ways a sequel to The Incredible Machine, or at least a spin-off. The puzzles are quite similar. You use familiar tools,

including ropes, pulleys, and belts, to assemble a variety of probable and improbable parts. For most players, especially those familiar with The Incredible Machine, the beginning of the game is a cakewalk. But the puzzles become devilishly difficult about a third of the way through.

A Mechanical Extravaganza

But this program's offerings go much further than the Incredible Machine—right off the deep end. The graphics are colorful and vibrant—right out of the Saturday-morning lineup. The characters shrivel and stretch with the flexibility we've come to associate with toons. Dynamix's interactive cartoon world holds its own against the PC's best (including Disney's Hare Raising Havoc and ReadySoft's Dragon Lair). The game also provides screwball sound effects and a variety of musical soundtracks.

You get plenty of gizmos, gadgets, and goofy



Sid & Al's Incredible Toons wraps a warped cartoon world around logic puzzles that tax your mechanical ingenuity.

creatures: hens that lay eggs when bumped, men that eat eggs and run treadmills, dragons that blow smoke, elephants that belch and blow, vacuum cleaners that suck up whatever's nearby, and

boulders that you can cata-

pult. The game outdoes itself with such ridiculously high-tech contraptions as transrotomatic and skeleto-bobbin devices which, respectively, convert back-and-forth motions into circular ones and vice versa. Just placing the proper parts in position isn't always enough. Machines often require extensive tweaking to work in sync.

Sid & Al figure into the puzzles. You can coax them with fish and cheese to go where you want. They climb ladders, run into tunnels, and cut rope with scissors, but if they get too close to each other, look out Sid! He could become lunch.

Your contraptions don't have to end on your PC since you can create puzzles and trade them with friends. You decide which parts to include, state the goal, and even select the music—the possibilities are endless. If the game intrigues your kids, you can create simpler puzzles for them.

Sid & Al's Incredible Toons is a challenge for gamers of all skill levels and degrees of patience. With its zany cartoon graphics and sound effects, it will keep a smile on your face, even when you're puzzled. (Dynamix; 800-326-6654; DOS, \$49.95)

GAME-WINNING TIPS

If your machine doesn't work on the first go-round, reposition things slightly.

Having trouble? Think like a toon.

You don't have to use every last device to solve the puzzle. Some are decoys.

1 2 3 4 5 6 7 8 9 10

Sid & Al's Incredible Toons is one of the best puzzle games on the market. True, it's yet another Incredible Machine game, but new devices and cartoons keep the game fresh.



Design your own crazy puzzles and trade them with friends.



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BRAINDRAIN

Sparkz

By Bob LeVitus

Varcon Systems, creator of the arcade classics *Diamonds* and *Jewelbox*, has done it again with the addictive, enjoyable *Sparkz*—a game that should be familiar to fans of the old arcade game *Qix*. If you never played *Qix*, you'll get the hang of *Sparkz* within minutes, but you'll still be playing weeks later. And since each game is relatively short—mine tended to last about 5 minutes—you'll find yourself playing over and over, trying to better your score.

Sparkz is based on a very simple concept: Capture as much of the playing area as you can before the deadly star or one of the speedy little sparkz touches you or your tail. You must capture 50 percent of the playfield to complete the first level and higher percentages for subsequent levels. There's also a practice mode, which lets you try any of the game's 25 levels. You begin the game with four lives and gain an extra life for every 3,000 points scored.

To capture a region, you maneuver a tiny dot that moves around the perimeter of the playfield. Pressing any key or double-clicking the mouse reverses the direction in which your dot is moving. To begin capturing an area, hold down the Shift key (or press the mouse), which stops your dot in its tracks. Once your dot has stopped, you can move it up, down, left, or right into the playfield using the keyboard or mouse.

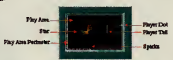
The mouse seemed less precise and harder to use; I preferred the default keyboard controls—2, 4, 6, and 8 on the numeric keypad.

Your goal is to enclose a region as large as possible without touching the star or the sparkz and

Playing Sparkz

To begin a game select **Game** in the **Options** menu. You will see the player's dot moving along the perimeter. To reverse the dot's direction press any key (or double-click if you are using the mouse).

Holding down the **Shift** key (or clicking the mouse) will immobilize the dot. Once the dot has stopped moving you can move within the play area by using the large numbered 1 to 9 keys. If you're using the mouse move it in the direction where you'd like to go. Once in the play area try to close a region as large as possible and then return to the perimeter without running into your own tail or leaving the playfield (or hit your tail).



The rules are simple, but playing successfully isn't.

without running into your own tail. It sounds easy, but as the levels progress and the star grows bigger and sparkz move faster, it becomes anything but.

Each region you enclose gains you points, with bonuses for regions larger than 10, 25, or 50 percent of the total playfield. You'll score extra points for capturing the star or a sparkz within a region and for completing each level successfully.

Sparkz is not without its blemishes. There's no way to save a game in progress, and I noticed a slowdown and decreased responsiveness when another program was running in the background. And if playing *Sparkz* sounds a bit repetitive, it is. But it's anything but boring. As the levels progress, the star grows larger and faster, and the number of sparkz increase and they, too, move faster. Even after several days of intense play, I felt lucky to progress beyond level 6 or 7. What's important is that I'm having so much fun, I keep on trying. (Varcon Systems, Inc.; 619-563-6700; Mac, \$49.95)

GAME-WINNING TIPS

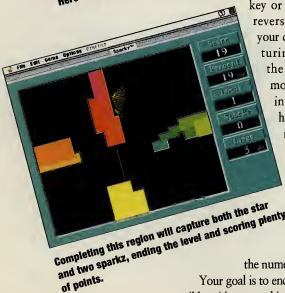
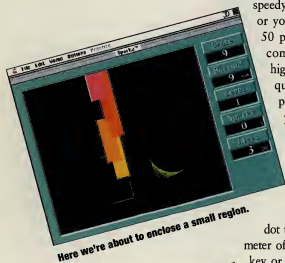
There is no time limit, so don't be careless. Capture territory in small chunks.

Be prepared to enclose a region immediately if the star comes near you.

Try building tall, thin structures, which make it easier to capture the star and more than one of the sparkz.

1 2 3 4 5 6 7 8 9 10

Sparkz is an addictive, enjoyable arcade game. However, it's not an original concept and some may find it repetitive since each level looks the same—only the speed and quantity of stars and sparkz change.



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Shadowcaster

By Al Giovetti

Sometimes you start out with one idea and end up with something quite different. That's what happened with Shadowcaster, an engaging first-person action adventure designed by Raven Software for Origin Systems. The original idea included a written story line, but the text was axed when play-testers found it slowed up the game. Raven's Victor Penman decided digitized speech was not feasible and went for plenty of combat with the hostile inhabitants of the Shadowcaster's world. Is the result better than the original concept? Probably, because Shadowcaster's graphic depth, fast action, and streamlined icon-based interface make text unnecessary.

Powers to the People

You play Kirt, the shadowcaster, a man whose destiny even the gods cannot predict. The rest of the People have been taken captive, and Kirt must travel through 26 levels of dungeons and mazes to save them from the evil Veste and his even more evil master, Malkor. Kirt is the last to possess the once-common ability to transform into other beasts. As he progresses through the adventure, Kirt gains the ability to morph into seven strange, nonhuman forms, each of which has as many as seven special powers and its own strengths and weaknesses.

This morphing ability expands Shadowcaster past the limitations of most single-hero role-playing adventures as you learn to use each metamorph's special powers and apply them to various game situations. It also adds replayability, because even after you've completed the quest, you can go back and try using different morphs to

meet the game's challenges.

In some ways, Shadowcaster is a simple game. All the usual distractions on the main screen are gone, leaving a streamlined, improved version of Id Software's Wolfenstein game engine. The 3-D play screen, an inventory for all seven morphologi-



Kirt fights the eyecrawls creature in the richly decorated Maze of Madness.

cal forms, and a level map are the only screens in the game. The idea is to keep your eyes glued to the inspired 3-D art and special effects of

Raven Software's Raffel brothers. These artists-turned-game-designers have outdone themselves, providing stunning backgrounds as well as spectacular morphing as Kirt changes shape from one of his seven somatotypes to another.

As in other adventure/role-playing games, Kirt needs to fight (and destroy) enemies to gain experience, and each of his morphological forms separately gains the experience needed to increase levels, health points, power, and abilities.

Shadowcaster is not without its deficiencies. A rest feature would save you from having to wait for long periods until your character is healed, or until you acquire the Caun form, which heals ten times more quickly than the human form. The automap system does not have an automated legend or note-taking feature.

Surprisingly different from past efforts of Id, Raven, and Origin, Shadowcaster is a most unusual game, derived from the combination of their formidable creative talents. People who purchase Shadowcaster with preconceptions may be in for a surprise, but it should be a pleasant surprise since the excellent design and execution make Shadowcaster a must-play. (Origin Systems; 800-245-4525; DOS, \$69.95)

GAME-WINNING TIPS

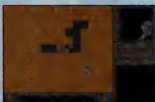
Approach corners and doorways obliquely, from one side or another. Monsters tend to get hung up on doors and corners, allowing you to get a good swipe before they jockey around into an attack posture.

The red-flowered plants become a float seed when killed. The float seed forms a mat of plant fibers. Hoard float seeds and put them into the swamp to make a path across.

The glaive weapon can be found on level one in the upper right area of the map, beyond the dead-ly fireball room and the quicksand.

1 2 3 4 5 6 7 8 9 10

The superior graphics and imaginative theme in this 3-D world take Shadowcaster close to the top.



Shadowcaster's overhead perspective automap gives details of game progress.

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Critical Path

By Christopher Lindquist

Advanced technology can make a good game better, but can technology alone salvage a mediocre one? In the emerging category of games that include flashy full-motion video, sheer novelty is probably enough to make a product stand out—even when the game itself is less than spectacular.

The post-nuclear scenario in Media Vision's *Critical Path* is nothing particularly innovative for either games or movies. You play "The Kid," an injured helicopter pilot trapped in the control room of a booby-trapped warehouse. Your challenge is to guide your cohort, Kat, through a maze of tunnels and traps to save both of you from death.

Nine Lives

Using surveillance equipment and Kat's head-mounted portable camera, you see and hear her every word and action. You play, however, are limited to a few terse directional commands and an alert signal to warn of impending danger. You also have control of booby traps (mostly explosives) and heavy equipment to help you guide and protect Kat as she tries

to escape the clutches of the insane General Minh.

A journal written in Minh's hand is



While on the catwalks, look for gaps from a distance and tell Kat to make her turn just as she reaches the Intersection.

have to start again at the beginning of the "scene." Don't worry. Nine lives and three or four hours should be more than enough.

"Production values, production values, game play," was the order of importance in the development of *Critical Path*, according to an insider at Media Vision.

It shows, too. *Critical Path* is a slick looker that doesn't put up much of a fight for serious gamers. The toughest section requires you to guide a blinded Kat along a dilapidated catwalk (no pun intended), but once you've figured out the proper sequence of turns, it poses little challenge.

Kat is played handily by stuntwoman/actress Eileen Weisinger. To a large degree, this game succeeds because of Weisinger's ability to reach out of the screen. The evil General Minh is played fiendishly well by Media Vision executive vice president Min Yee. The fully rendered madman's world is spectacular to see, even in its less-than-quarter-screen window, and the sound effects and music lend an intensifying, and crucial, touch of realism.

Hard-core gamers looking for a challenge won't find it here, and \$80 may seem like a bit much to pay for what amounts to a fairly decent action/adventure movie. And like most movies, this one won't bear much repeat viewing. (Media Vision; 800-845-5870; CD for Windows, \$79.95)



If you can't make out a control letter in Minh's notebook, look for a word containing a similar-looking letter to help you.



If you wait too long to do something, Kat will take off on her own—and most likely die in the process.



Critical Path is a big step in the direction of interactive cinema, but the novelty wears off quickly. The game play is generally too weak to provide a serious challenge.

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I Will

By Tony Reveaux

I Will for the Pioneer LaserActive system is an example of a first-generation intermedia product that attempts to slap together elements of laserdisc-quality video, computer graphics, and interactivity. But while it occasionally reaches a high-water mark in video quality, the whole is less than the sum of its parts.

The inexplicably titled *I Will* is part detective story, part travelogue. The action takes place in the British Isles. A cinematic opening tracks a Rolls Royce through the English countryside, where its unknown driver snatches a mysterious package. Then the scene shifts to Dr. Ozone's laboratory, where you meet Dr. Ozone and Catherine Holmes. Ms. Holmes hires your alter ego, Sherlock Bond, to recover the stolen package. This is how you find yourself on the case, viewing a map of London, and carrying a bankroll of £500.

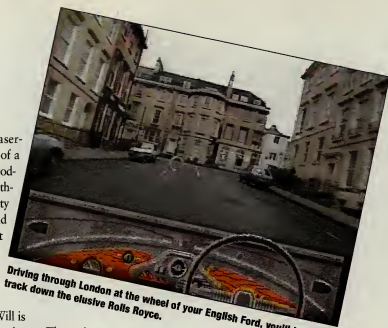
Travel in Style

Those unfamiliar with Great Britain might want to use the travelogue on side two of the laserdisc to preview the main locations in the game. Use LaserActive's remote controller to control speed and direction—even freeze-frame the visuals. This amount of video control is available only on side two, not during the game.

Within the game, various pop-up windows provide important information about the time, money, and gas remaining (yes, you have to keep track of the petrol, as the Brits call it). Pop-ups also show you Key Points—information credits that can provide you with additional cash.

The action in *I Will* is at best leisurely, requiring you to use the keypad to ride in a taxi, a bus, or, later in the game, an English Ford around the maps. When the vehicle changes color, you press the Start/Stop button to enter a location. If you receive a "Not enough information" message, you haven't gathered enough clues to enter.

Each location is a film clip with hot spots you can click on to receive clues. Every time you find a clue, you automatically return to the map and drive to the house of Catherine's father, Detective



Christopher

Holmes. In live action, he interprets the clue and gives information about where you might go next.

Eventually, you'll visit locations such as Portsmouth, Loch Ness, and Edinburgh. Unless you keep a healthy supply of cash throughout your travels, though, you'll lose the game. There are various ways to increase your assets, including finding Key Points or taking odd jobs. When you gain access to the London Casino, you can play poker, blackjack, or slots as long as you wish. It's a gambler's paradise: Though you can win money, losing doesn't affect your funds.

Later in the game, you'll find yourself inside the car, driving as full-motion video clips play through the windshield. Here's where the difference between the hand-drawn computer graphics and the high-quality video is most jarring, but there is a certain thrill in getting used to driving on the "wrong" side of the road.

I Will can be excruciatingly slow: Being forced to return to the map at every turn saps the magic from the ride. Where the video is high quality, the computer-drawn scenes are 16-bit and the acting strictly two-bit. Still, *I Will* had some good touches and some superb video moments, and, flawed as it is, I found the overall game intriguing. Will I play it again? Maybe *I Will* and maybe I Won't. (Pioneer Electronics USA; 800-421-1404; Pioneer LaserActive Player, \$120)



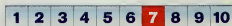
Christopher and Catherine Holmes ponder their next move.



As you drive the streets and roads of Britain, you can keep track of time, cash, and gas.



If you can get far enough, you'll catch up to that mysterious Rolls Royce and the final clues.



I Will has really fine video, but it's a really slow game. Fun if you've got the time.

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Sam & Max Hit the Road

By Rick Barba



It all starts with a guy named Flambe. He's a fire-eater. You get the picture.

Yeah, it's a great country, America. Fruited plains and all that. Yours for the taking. All you need is a car, man. Which is why Americans have always romanticized the open road. Freedom. Rebirth. All that crap.

But take a road trip in LucasArts new game *Sam & Max Hit the Road* and you'll see an even weirder part of the country: Highways that are tacky, tacky, tacky; prefabricated Snuckey's at every exit; and some roadside attractions that make late-night cable TV telemarketing scams look like "Masterpiece Theater."

At the heart of *Sam & Max*, naturally, are Sam and Max. As Sam puts it, "I'm Sam. He's Max. We bust punks." Sam is a laconic canine Bogart, and his sidekick Max is a furry little woodland creature bursting with frenetic energy. Their hard-



Sam calls this street home. It's sleazy, decrepit, and covered with some really interesting stains.

boiled repartee keeps the game's wit in high gear from beginning to end.

The story opens with a trip to a carnival, where we learn that Bruno the Bigfoot has escaped from his block of ice in the Hall of Oddities and disappeared with Trixie the Giraffe-Necked Girl. Is it kidnapping?

The road beckons, and off we go. Along the way we meet country-and-western star Conroy Bumpus and his dim henchman, Lee-Harvey. Bumpus, we learn, has a thing about killing rare mammalian creatures for display in his stately mansion, Bumpusville.

Sam and Max eventually work their way through such tourist traps as Gator Golf, World of Fish, Mystery Vortex, the Celebrity Vegetable Museum, and Frog Rock (which looks like anything but a frog). The sojourn eventually leads to Bumpusville and finally to a sasquatch convention at the Savage Jungle Inn.

On this game's blue highways, the Snuckey's at every exit is exactly the same wherever you go, down to the guy behind the counter. Then there are the tourist traps, including the world's largest ball of twine, complete with a revolving restaurant at the summit. There are decrepit carnivals with rides like the Cone of Tragedy and mondo freak shows that feature such talismans as the severed hand of Jesse James.

From Hammett to Disney

Sam Spade parodies are a dime a dozen, but I doubt there's ever been one even remotely like this: "He's a bunny. I'm a dog. We're dangerous, but we work cheap."

Like Hunter S. Thompson, cartoonist Steve Purcell loves mutant gonzo America. His infamous cartoon duo—Sam and Max, freelance police—lives in a world of convenience stores that hawk "guns, liquor, and baby needs." And the two embrace all the weirdness with a Joycean fervor. Says Sam: "Max, crack open the Tang and those little cereal boxes with the perforated backs. I love that crap!"



Purcell is also a brilliant humorist. His satire of middle Americana is murderous. For example, in the game manual we get some science tips from Sam and Max: "Remember: Stalacitēs hold tight to the ceiling. Stalagmites might grow up. Try to keep all this stuff off your pants." Or my favorite: "Try imagining how far the universe extends! Keep thinking about it until you go insane."

Even the throwaway stuff is great. Click on the exclamation point icon during a conversation and you might get, "My mind is a swirling miasma of scintillating thoughts and turgid ideas." In Bumpusville, one of Conroy's platinum record awards is for the country classic "Let's Get Drunk and Shoot Things." And a politically correct hotel sign at the site of a bigfoot convention proclaims, "Welcome, Podiatrally Gifted."

Okay, I like a lot of lines in the game. I mean, a lot of lines. But the best come when Conroy Bumpus sings in his concert hall, which is a twisted version of the Disneyland Tiki Room:

*That's why I'm...
Happy being King of the Creatures
I'm proud to be the Lord of the Odd
I love collecting things with grotesque features
It makes me feel like some Chaldean god.*

When was the last time you saw a reference to a Chaldean god in a computer game?

Sam and Max gladly put their talents at your service. For example, Max's proclivity for wanton violence frequently proves to be a useful tool. His deadly bunny teeth can snip samples of twine or shear an entire woolly mammoth. He'll gladly "help" a hypercephalic cat produce (read *regurgitate*) an important document. Heck, Max will even take a face dive into a fuse box if necessary. And love every volt.

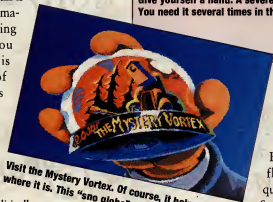
Purcell and Sam & Max codesigners Sean Clark, Mike Stemmler, and Collette Michaud clearly share an irreverence toward the gamer mentality. They include a bunch of satiric mini-games—carnival attractions like Wak-A-Rat,

GAME-WINNING TIPS

Select the Max icon in your inventory and try it on various things if you're stuck in a perplexing puzzle. Sam's furry little buddy is quite resourceful.

Once you acquire items, always look at them in your inventory. Sometimes it's not enough to get something. Examining things more closely occasionally reveals details you missed.

Give yourself a hand. A severed hand, that is. You need it several times in the game.



a roadside driving range called Gator Golf, a strategy board game called Car Bomb, and a superfluous arcade sequence called Hiway Surfin'. Of course, you might find these games engrossing for

hours on end.

The animation is excellent. Like another recent LucasArts cartoon triumph, Day of the Tentacle, this game raises PC animation to new heights—not just in its frame-by-frame fluidity but also in its comic sensibility.

Sam & Max in fact shares much of Tentacle's excellent art and animation team, people like Larry Ahern, Lela Dowling, Jesse Clark, and Peter Chan. This group is learning good lessons from Chuck Jones and the Warner Brothers cartoons of the golden age. (LucasArts; 800-782-7927; DOS, \$59.95)



It all ends up at a Yeti convention. Hell, why not? This is America. Anything's possible.

1 2 3 4 5 6 7 8 9 10

Sam & Max is the most computer fun I've had in a long time. It's what literate adventure gamers have been craving for years. It's hip, funny, adult, and well written. If you buy only one adventure game this season, get Sam & Max. If you buy 12, buy it 12 times.

Sam and Max live in a world of convenience stores that hawk guns, liquor, and baby needs.

Innocent Until Caught

By Rick Raymo

Welcome to fiscal hell. Innocent Until Caught, from the psingular pholks at Psygnosis, is a tax evader's nightmare.

They say the only things certain in life are death and taxes, and if you want to put off death for more than 28 days, you've got to pay off the futuristic Internal Revenue Decimation Service. That's how long the IRDS is willing to wait before they fold, spindle, and mutilate you beyond recognition.

The promising premise: You're Jack T. Ladd, master thief, a not-so-nice guy with a severe tax liability. The IRDS has nabbed you, and they want their cut of your lifetime of undeclared, illicitly garnered income. They're not looking for explanations, excuses, or deals. They're looking for cash.

With fines added, your tax bill comes to more than you've ever earned, illicitly or otherwise. You're flat broke. Busted. Unless you pay the bill within 28 days, you'll suffer the usual IRDS penalties: Torture, followed by sale of all usable internal organs, and death—and all goods belonging to family and friends become the property of the IRDS for 15 generations.

Irritating Until Quit

It's too bad that story line alone does not a great game make.

Disregard the fact that the final production version of this game locked up after loading at the configure screen. Ignore the fact that the game couldn't find the device driver for a Sound Blaster and had to be tricked into using an Adlib driver. These trivial (albeit annoying) problems can be fixed on the next shipment.

A bigger problem is the interface. The game has a typical icon-based active screen that requires that you click hot spots on the screen. For some reason, each object requires a few (sometimes as many as seven) clicks before it regis-

ters your existence.

You can't move on from the text balloons used in conversation by clicking when done. Instead you must choose an overall speed number from 1 to 20 and hope that you've chosen the right one. I never managed to get it right—the short text balloons took too long and the long ones disappeared before I finished reading them.

Any mistake you make while choosing conversation branches destroys your game and you must restart. Nearly all the puzzles in the game relate to items gathered through conversation branches. Mess up and you're back to the last Save. Using items is frustrating at best. Movement within and out of each screen requires extreme patience, and the puzzles are way beyond intuitive.

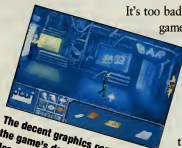
Innocent Until Caught had potential. The idea has merit. The writing is good. The graphics are adequate or better. However, this game's interface is among the worst I've seen. The game itself is so...so...well, British and difficult that I'm guessing only Anglophile gamers with a masochistic bent will have any interest. Psygnosis can do (and has done) much better. Spend your money on its Lemmings games instead. (Psygnosis; 800-438-7794; DOS, \$49.95)



Icon use is a bother at best. They often require multiple clicks because your target is so tiny.



Setting the correct text speed is tough, and you can't close the balloons when you've read them.



The decent graphics convey the game's dark, gritty, and desperate atmosphere.

GAME-WINNING TIPS

You can get out of the zoo via the sewers.

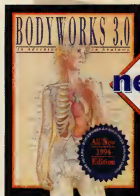
Give the ornament you got from the Madam to the Bikers for a vest of half-credits.

You'll need to jar the fly. Get mayo from the hot dog stand. Place the jar and lid on the sidewalk under the fly.

1 2 3 4 5 6 7 8 9 10

With a real interface and more intuitive puzzles, this game would have managed a seven. As it stands, though, you don't want to get caught in this one.

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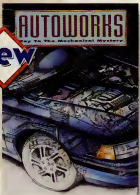
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Lost in Time

By Al Giovetti

It begins simply enough with a letter: You've inherited a mansion on the French coast from a distant relative. But when you get there, the gate's locked and a note tells you that smugglers have been using your new mansion to store contraband. Things start to get weird when a smuggler captures you, and he turns out to be a time traveler who intended to kill one of your ancestors—a hundred years ago.

Such events might leave most of us confused, but not the plucky heroine of this adventure. Doralace is a modern woman who's up to the challenge—with a little help from you. She's also a pilot and, as she soon finds out, a time traveler who can explore the past.

In *Lost in Time*, Doralace visits the present-day coast of France as well as two locations in the past—a Caribbean island and an ill-fated cargo galleon. You use the mostly mouse-driven interface to guide Doralace's adventure, selecting locations and objects to solve puzzles. Sometimes you'll need to have an appropriate item

ready to get the results that you want. For instance, when you come to the hatch leading from the first room, you must have the lantern in hand to proceed.

This is no walk along the Champs Elysées. *Lost in Time* contains some pretty tough

puzzles, and you may end up painting yourself into the proverbial corner, making it impossible to come back and win. You'll play along happily, thinking all is well, only to find later that you can't go any further. Fortunately, you can save as many games as you need to—you're limited only by hard disk space. And Sierra and Coktel, the makers of the game, have thoughtfully provided three hints (they call them

GAME-WINNING TIPS

Learn to combine items. One diabolical puzzle involves pouring a liquid called muoc-mam over a crust of bread, then throwing the bread on the roof of a fisherman's cabin to get a bird to knock off a life buoy.

To get the key to the manor house, use picture wire with the door handle. Attach the wire to the battery, which should have vinegar in it, to create an electromagnet. Use the dart to push the key through the hole, and then put the electromagnet on the hole under the door to get the key. Finally, unlock the door.

Look in many places, many times. Check for false bottoms in chests. Open a drawer or chest more than once. You never know what you'll find.

Some items are as small as just a few pixels, so you need to click many times to find them.

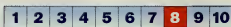
"jokers") that you can ask for during the game. Use all three, though, and you'll have to call

Sierra's hint line (be warned—you'll have to pay for it since it's a 900 number) or BBS for any more information.

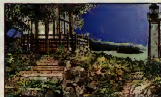
Lost in Time was created with a variety of techniques. Some locations were digitized from film while others were

drawn by the famous French cartoonist, Segur. Fourteen professional actors appear in pop-up full-motion video windows. Other attractions include excellent music from Charles Callier and, in the CD version, 45 minutes of full-motion video with digitized speech.

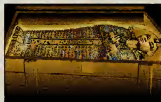
Although the video isn't the best I've seen, this is still a high-quality effort with plenty of challenge. As the first in a planned series of Doralace adventures, it creates solid groundwork for future products. If you're hungry for challenge, *Lost in Time* provides plenty of food for thought. (Sierra On-Line; 800-326-6654; DOS, \$59.95; CD for DOS, \$69.95)



***Lost in Time* is a good, solid, high-quality game. But the puzzles are very hard and often obscure, while the digitized, full-motion video is not the best.**



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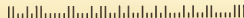
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IndyCar Racing

By Wayne Kawamoto

All that's missing from IndyCar Racing are the grease, the exhaust fumes in your nose, and the centrifugal pull as you hug the corners (though you'll probably lean into the turns anyway). This simulation from Papyrus and Virgin Interactive Games accelerates past the pack.

Like most recent car simulations, IndyCar Racing whisks you into a 3-D world that almost makes you forget that you're sitting in front of a computer. The racetracks are the most detailed to hit the PC yet, and



time in the garage and on the test track, adjusting your car for each race and for prevailing conditions. Should you take more wing? How

about gear ratios and tire compounds? IndyCar Racing offers the options of the best simulations on the market and adds its own innovations.

For instance, IndyCar Racing lets you adjust the front and back antiroll bars, brake bias, and turboboost in real time as you race. To compensate for the constant wear on your tires or other changing conditions, you can make these adjustments on the fly. Other race games force you to perform these adjustments before the race, if they let you make them at all.

You do need to make some adjustments before you hit the track: Set the front and rear wing angles to adjust downforce. Tune the suspension. Set gearbox ratios. Select tires for the track conditions, and set their pressure and stagger. With IndyCar Racing, competent driving isn't enough.

The game also lets you alter race parameters. Since races can easily last for hours, you can compete for just a percentage of a race. You can even play God and set weather conditions (rain, wind, and temperature).

Tenderfoots can ease into the cockpit by opting for an invincible car. This gives you a good chance to finish a race in one piece, but it also provides an almost irresistible temptation to play demolition derby and wipe out your competitors. Letting the PC shift and brake for you is another relaxing way to learn the ropes.

IndyCar Racing lacks World Circuit's "ideal line," which shows how the pros take the turns and position themselves on the track. All the same, IndyCar's tire marks, or "grooves" on the tracks, can serve pretty much the same purpose.

PC Like a Wheel

When you're ready for the advanced stuff, set the game to manual shift and braking and go for it.



with a deep foundation in racing technology and strategy, the game takes you beyond the race itself and into the fundamentals of the sport. Whether you're taking the lead, struggling to throw a contender off your tail, or spending late nights in the garage fine-tuning your 750-horse chariot, this game hits on all cylinders.

The Nitty-Gritty

There's more to successful IndyCar racing than driving technique, and today's best racing simulators aren't limited to moving 3-D scenery. In simulations like IndyCar and Microprose's World Circuit, you can make like a pro and spend some

GAME-WINNING TIPS

Read the manual carefully to learn the correct racing techniques—especially how to take those curves.

Consider the manual's strategies for each course. In the beginning, keep the game in wimp mode—the PC does the shifting and braking.

Get a joystick yoke or wheel to really enjoy this game.

This is a major step up—IndyCar has a learning curve tighter than a hairpin turn.

The joystick configuration departs from that of other race games in that button A accelerates and button B brakes. Most driving simulations, from World Circuit to Accolade's Test Drive, use joystick up and down positions to accelerate and brake. IndyCar Racer's button-activated controls simulate the foot pedals of an actual grand prix racer a little more closely.

IndyCar Racing also supports linear steering with a joystick or yoke. This should, in theory, more closely resemble real-life control. However, in actual use there's little discernible difference. Another option is to use the keyboard, but I recommend a joystick, yoke, or wheel for better performance.

Competing in single races is all well and good, but for the ultimate challenge, put the pedal to the metal through a whole season. Compete for grand



In replay mode, you can view the action from different camera angles.

prix points on re-creations of such real tracks as Long Beach, Nazareth, Laguna Seca, and Exhibition Place, Toronto. At the end of the season, an overall champion is crowned. Fortunately, the game's preseason practice gives you unlimited time to evaluate your car setups and hone your driving technique on each track.

The game also features head-to-head game play via 9,600-bps modems. If the computer opponents

aren't enough of a challenge, go up against a friend and see who gets left in the dust.

Relive your triumphs and crashes with built-in playback. Review the action once, or save it for all time. In addition to the usual VCR-like controls, including rewind, forward, and play, you can select camera angles and even view the action from another vehicle. Watching replays in IndyCar Racing feels a lot like watching a race on television.

The program's in-depth documentation goes into detail about racetracks, strategies for qualifying and racing, options for equipping your car, and general racing concepts. The manual also goes into technical detail, explaining such terms as *downforce*, *tire contact patch*, *engine torque*, *understeer*, *oversteer*, and *drag*. The better you understand these concepts, the more craftily you can customize your car.

Graphically, IndyCar Racing is the most attractive automobile-racing simulation to date. Its texture maps bring life to the passing virtual world—grass, walls, road, and billboards. The dust flies, and so do the sparks when you hit the wall. It's a discrete step up from World Circuit's polygon-fill world. And the game offers adequate race car sound effects and noises.

IndyCar Racing surges ahead of the competition. Its realistic courses, conditions, cars, and modifications, combined with excellent graphics and animation, make this the greatest of the latest crop. While some gamers may enjoy the more arcade-type ride delivered by Accolade's Speed Racer, IndyCar Racing guarantees to make the hearts of realistic-simulation fans race with excitement. (Papyrus Publishing; 800-874-4687; DOS, \$74.99)



IndyCar Racing is the best racing experience to hit the PC. It's got strategy, technique, realistic cars and modifications, and great graphics that immerse you in the world of high-speed racing. The challenges are intense and the competition never gives up. You'll grow with this one for a long time.

IndyCar has a learning curve tighter than a hairpin turn.



When the cars crash, the dust and sparks fly.



In Search of CD-ROM

When you're shopping for a CD-ROM drive, always balance how much you're willing to spend against how much speed you need. Price/performance combinations range from cheap and leisurely to pricey and quick.

If you use CD-ROM titles only occasionally and don't have a yen to be on the cutting edge, a less expensive, slower drive will suffice. But if you want to play the hottest CD-ROM hits, you should seriously consider a high-end drive. And don't forget to shop around—suggested retail prices on drives don't mean a thing these days. If you look hard enough, you'll find drives with suggested retail prices of \$800 selling for less than \$400. And technological improvements are driving prices lower every day.

If your CD-ROM drive comes as part of some ready-to-go multimedia upgrade kit, ask your salesperson for the specifications. Vendors of cheaper kits often save money by bundling slower drives. And while most kit makers use drives from major manufacturers, it's worthwhile knowing exactly whose hardware you're buying with your hard-earned cash.

Our list of drives contains some of the best products on the market. The specs we give you are for internal models, but almost all manufacturers have external versions that deliver similar performance for somewhat higher prices. Another option to consider is the Small Computer Systems Interface (SCSI).

Most of the drives use SCSI, though the cheapest ones have proprietary interface cards. The advantage of SCSI is that you can easily swap in another manufacturer's SCSI drive or attach another SCSI device such as a tape drive unit or a scanner. Another benefit is that you can usually make a SCSI drive Mac-compatible with a software driver and cable—for an extra \$35 to \$100, of course.

All the drives meet MPC 2 requirements, including Multisession PhotoCD compatibility and dual-speed data transfer.

Aztech COA 268-01A

Sound-card vendor Aztech Labs recently jumped into the low-priced CD-ROM drive fray with the \$200 CDA 268-01A.

Despite its cryptic name, the drive is meant for



Chinon's CDS-535 is a critic's darling with gobs of onboard cache.

mainstream consumers who want dual-speed throughput at a bargain price. But you can't get something for nothing. In this case, its 64K cache and under-380ms access time mean less than blazing speed. The Aztech does meet MPC 2 requirements in these areas, but just barely. Still, its transfer rate, not access time, that makes video clips look smooth, and the Aztech is a dual-speed drive with the requisite 300Kbps transfer rate. If there's a catch, it's that Mac users can't work with this purely PC drive—the interface is proprietary instead of standard SCSI.

But on the plus side, the drive has a neat multifunction play/skip track button on the front panel that lets you play audio CDs without loading a software utility first—a convenient feature if you like to migrate your CD collection to the computer room on occasion. (Aztech Labs; 800-886-8859; PC, \$199)

Chinon CDS-535

Chinon has a reputation for high-quality CD-ROM drives at reasonable prices. Its entrant in the dual-speed race—the CDS-535—helps strengthen that reputation.

The Chinon is a caddy-loading drive with a whopping 256K of cache that speeds you through the latest multimedia titles. You do pay a little more for the privilege, but the price includes a SCSI interface card, something the other SCSI drive makers force you to buy on your own. And while Chinon's literature lists the retail price at almost \$650, with a little effort you can find it for less than \$400. (Chinon America; 800-441-0222; PC, \$645)



A Creative Labs' OmniCD will attach easily to your Sound Blaster.

Creative OmniCD

You wouldn't know it by looking on retail shelves, but Matsushita, the maker of everything with the Panasonic label, produces and sells a ton of CD-ROM drives. Many vendors of multimedia upgrade kits use Matsushita products when they want a moderately priced, quality CD-ROM drive in their kit.

Creative Labs is one such company. It worked with Panasonic to create the Creative OmniCD, a dual-speed, tray-loading drive that lists for less than \$400. And if you happen to own a Creative Labs Sound Blaster card, you can hook up this drive directly without sacrificing a bus slot. The drive uses a proprietary

PHOTOGRAPHS BY ANN CLARK

Matsushita interface card that's included in the kit. (Creative Labs; 800-998-5227; PC, \$399.95)

NEC MultiSpin 3Xi

Some companies have a lock on cool. NeXT does with workstations, Logitech does with mice, but NEC is the one to beat when it comes to CD-ROM drives. And the MultiSpin 3Xi extends NEC's lead.

To start with, the drive is the first triple-speed drive to come in at a consumer price point—around \$500 on the street. As if that weren't enough, the MultiSpin 3Xi is a real eye-catcher. An LCD panel on the front displays the date as well as audio and diagnostic data, and a full set of audio controls gives you easy access to your music CDs. A roll-down door locks the caddy in place and seals the drive from dust.

The drive really struts its stuff on multimedia titles and games with long video segments. The 450Kbps transfer rate results in smoother video playback than its dual-speed cousins provide. Some tests indicate that the drive takes a while to get up to speed, so titles that make a lot of quick trips to the disc may not show much improvement. But if what you want is the cutting edge, this is the drive to own. It even tops the competition with a two-year warranty—double the norm. (NEC Technologies; 800-632-4636; PC/Mac, approximately \$500)

Plextor DM-3028

"The fastest CD-ROM drive in the world" is how Texel (recently renamed Plextor) used to advertise the DM-3028. It's a conclusion that varies depending on whose test you use, but there's no denying that the company turns out worthy CD-ROM drives.

Though the DM-3028 uses a 64K cache to keep down costs, the drive still offers throughput of 335Kbps, a full 10 percent faster than the Sony and Aztech drives. A 240ms average access time means shorter waits, too.

But the performance boost doesn't come particularly cheap. The Plextor has a list price of \$329. And, unlike Sony's and Aztech's drives, it doesn't even include an interface card. If you don't already have a SCSI controller, expect to pay at least \$100 more to get this drive up and running. Plus, its caddy-style loader slows you down a bit when changing discs. (Plextor; 800-886-3935; PC/Mac, \$329)

Sony CDU-33A

Sony took a sledgehammer to the price barrier with this one. The CDU-33A is a dual-speed drive with a



Hot looks and high performance define NEC's triple-speed 3Xi.

suggested retail price just under \$200 and a respectable brand name.

Despite its low price the drive meets MPC 2 standards for CPU utilization, so it shouldn't bog down your system. It also includes Multisession PhotoCD compatibility, meaning that you can use it to view any snapshots you have developed and put on a CD-ROM by Kodak. And it uses the familiar tray-style loader audio CD players use.

Of course, the low price involves a trade-off: don't expect blazing performance. While the drive has a 300Kbps throughput, it sports only a 64K cache and a stodgy 350ms access time. That means some delay while the laser hunts for data. And the drive's proprietary Sony interface will keep Mac users away. If cost is your prime consideration, though, the Sony is hard to pass up. (Sony Electronics; 800-352-7669; PC, \$199.95)

Toshiba XM-4101

Toshiba has been sitting on top of the CD-ROM drive world for some time. Toshiba drives offer performance and reliability that are second to none. But the biggest drawback to the company's drives has always been their correspondingly high price.

Now Toshiba is bucking that trend. The Toshiba carries a suggested list price of \$320 without a SCSI interface card, and street prices will be well under \$300. And it economizes on energy, too, using a mere 3 watts of power. This puts it in tune with the recent trend toward green PCs that cut energy use and cost.

Plus, the inch-high drive is designed for today's low-profile desktop systems. It features an innovative tray-style loader that locks the disc in place so that you can tip the drive on its side without losing the CD. But with such a low price you can't expect the same blazing performance you get with Toshiba's more expensive drives, such as the XM-3401, which costs \$510. To cut costs, the XM-4101 has only a 64K cache and an average 320ms access time. By comparison, the 3401 has a 256K cache and a 200ms access time. (Toshiba; 714-457-0777; PC/Mac, \$320)

One last thing to keep in mind about CD-ROM drives before you go shopping: Specifications such as access times should be used only as general guidelines—determining them is more hocus-pocus than hard science. While it's a safe bet that a 240ms drive will be faster than a 380ms model, another manufacturer's 280ms drive may beat them both, depending on the software cache it uses. So, in addition to specs, pay attention to price, warranty, and manufacturer when you shop for the perfect drive.



Sony enters the low-price fray with the sub-\$200 CDU-33A.



What Makes It Multimedia?

Obviously, you need a multimedia computer to take advantage of today's hottest software titles. But what makes a PC a *multimedia* PC? The question is more complicated than it might sound.

At its simplest, a multimedia PC—or MPC—is an IBM-compatible computer with a high-resolution display, a sound card, and a CD-ROM drive. These peripherals deliver video and audio capabilities far beyond those of a standard PC, and most of the latest games and titles require

them. But should you get an MPC Level 1 or an MPC Level 2 system? Does it matter if the systems carries an MPC logo? And if all MPCs carry basically the same components, what's the point of the logo?

To answer these questions, let's go back to the late eighties, when the first multimedia PCs incorporating CD-ROM drives and sound hit the market. They were expensive and unreliable, but that was the least of their problems. Because each so-called multimedia PC used a different combination of components, there was no single standard platform. Since a title designed for one system was unlikely to run on another, software makers had no incentive to build multimedia titles at all. And it was no wonder that most of them didn't.

So along came the Multimedia PC Marketing Council, the brainchild of Microsoft and several hardware vendors who decided they would sell more hardware if software makers would actually create titles for their systems. In 1991, they created a standard—now called MPC Level 1—that defined minimum multimedia equipment and performance guidelines. As standards go, it was a yawner—specifying just a 386SX processor, 2MB RAM, a 30MB hard drive, VGA graphics, an 8-bit sound card, and a single-speed CD-ROM drive.

There isn't a multimedia title out there today that could run on this lightweight system.

But at least it was a start, and finally, vendors could assure consumers that

their new hardware and software would be

compatible. For a fee

that could climb to \$70,000

per year, vendors were able to register for a trademarked logo that they could use to advertise their products as MPC-compliant. (The not-for-profit council uses the money to develop new standards and promote multimedia through a variety of marketing programs,

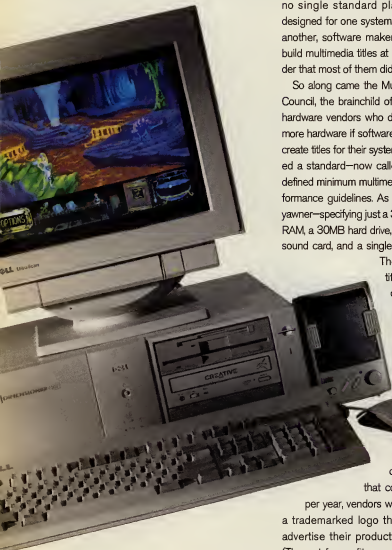
including the MPC logo.) You've probably seen the rainbow logo on everything from CD-ROM titles to full-fledged multimedia PCs.

Unfortunately, the MPC logo is not a seal of approval. And its mere presence (or absence) doesn't guarantee the quality of the box or the components inside. To the MPC Council's credit, however, the MPC standard has been steadily improving. Last May, it announced the MPC Level 2 standard. Requiring at least a 486SX, 4MB RAM, and a double-speed CD-ROM drive, this platform is adequate for the vast majority of multimedia titles out there today. (See the Multimedia PC Shopping List on the facing page for the full specs.) It also takes into account such late-breaking developments as the CD-ROM XA format, which will somewhat make PC video look much smoother.

And while the MPC logo still doesn't provide a guarantee that the system will actually work, the council has at least put together a set of tests that vendors and consumers can use to measure whether products meet the MPC 2 mark. These tests assess such crucial multimedia factors as CPU usage (the amount of processing horsepower required to run the drive), throughput, the number of colors supported, and the amount of disk space. The test suite means that you can be sure that products carrying the MPC 2 logo conform to this new set of specifications.

Of course, not every vendor that makes components that comply with the standard bothers to use the MPC logo. Smaller companies find the licensing cost prohibitive, and larger companies resist any cooperation with the competition. So don't worry about whether the hardware you're buying carries the logo; just make sure it meets the requirements.

Carry the list on the following page with you when you shop. It covers everything your system components need to qualify as MPC 2 compliant. If the system, upgrade kit, or CD-ROM drive you're looking at meets these specifications, you can be confident that your system will be ready for today's multimedia software and is well positioned for whatever tomorrow may bring.



MULTIMEDIA PC SHOPPING LIST

Take this list with you to make sure you're getting a PC that meets the MPC 2 standard. Make sure all those Yes boxes are checked before you lay out cash.

Product Name: _____ Price: _____

Location: _____

Notes: _____

Yes	No	CD-ROM Drive
<input type="checkbox"/>	<input type="checkbox"/>	300-Kbps transfer rate (minimum)
<input type="checkbox"/>	<input type="checkbox"/>	Average seek time of less than 400ms
<input type="checkbox"/>	<input type="checkbox"/>	10,000-hour mean time between failure
<input type="checkbox"/>	<input type="checkbox"/>	CD-ROM XA ready
<input type="checkbox"/>	<input type="checkbox"/>	Multisession PhotoCD support
<input type="checkbox"/>	<input type="checkbox"/>	Windows driver

Yes	No	Sound Card
<input type="checkbox"/>	<input type="checkbox"/>	16-bit digital sound
<input type="checkbox"/>	<input type="checkbox"/>	8-note synthesizer (minimum)
<input type="checkbox"/>	<input type="checkbox"/>	MIDI playback

Yes	No	Software
<input type="checkbox"/>	<input type="checkbox"/>	Windows 3.0 with Multimedia Extensions or Windows 3.1 or Compatible operating system, such as OS/2 2.1

Yes	No	System
<input type="checkbox"/>	<input type="checkbox"/>	25MHz 486SX microprocessor or better
<input type="checkbox"/>	<input type="checkbox"/>	4MB of RAM (8MB recommended)
<input type="checkbox"/>	<input type="checkbox"/>	3 1/2-inch floppy drive
<input type="checkbox"/>	<input type="checkbox"/>	160MB hard drive (minimum) Support for 65,536 colors at 640-by-480 resolution
<input type="checkbox"/>	<input type="checkbox"/>	Two-button mouse (minimum)
<input type="checkbox"/>	<input type="checkbox"/>	101-key keyboard or equivalent
<input type="checkbox"/>	<input type="checkbox"/>	Serial and parallel ports
<input type="checkbox"/>	<input type="checkbox"/>	MIDI I/O port
<input type="checkbox"/>	<input type="checkbox"/>	Game (joystick) port
<input type="checkbox"/>	<input type="checkbox"/>	Headphones or speakers

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Fear of Flying (Computers)

My husband has a fear of computers, and I want to help him overcome it. He has always wanted to fly an airplane, so I thought a flight simulator would be a good way to introduce him to the PC. But which one should I buy?

Lorain Schneider
Galveston Bay, St. Croix

Microsoft Flight Simulator 5.0 will make an armchair pilot of your husband. It requires at least a 486SX computer with VGA graphics and 2MB of RAM to run acceptably.

Flight Simulator is a perpetual favorite for PC owners and one of the best-selling pieces of software in history. Part of the reason is its realistic re-creation of the flight experience. You can choose from several planes, pick takeoff and landing sites, and even pilot a cross-country instrument flight. The latest version includes learning tools like the Land Me feature, which teaches beginners how to touch down in one piece. If your husband ever gets bored with flying around in the supplied sites, check out Microsoft's scenery disks, which include New York and Paris.

One more bonus for novices: No one else up in the sky is trying to shoot you out of it.

Blinded by Windows

I have several applications that use Video for Windows clips, but the video window is so small that it's almost unwatchable. How can I enlarge the image before I go blind?

Ron Weiss
Lubbock, Texas

You are a victim of postage-stamp video syndrome, a common malady among Video for Windows users. Unfortunately, the only cure is to spend some money. (Funny how most of our answers start this way.)

The power of your system components determines window size in Video for Windows.

With a faster processor, video card, and CD-ROM drive, your window could be bigger. Ideally, you'd get a 486DX processor, a local-bus video card, and a dual-speed CD-ROM drive, which could cost you almost \$2,000. And that still might not be enough.

Even at its best, Video for Windows doesn't come close to filling the screen: A quarter-screen image is the most you can hope for. If you want more bits for your video, you need a dedicated video-decompression card such as Sigma Designs' \$449 ReelMagic board. Then

gy, but they want to see complex, data-intensive games and multimedia titles. Equipped with a CD-ROM drive, this machine could be just the ticket.

If Atari sticks to its proposed schedule, the CD add-on should be available sometime this summer, followed shortly by a "true virtual-reality system," whatever that means. Of course, if computer companies stuck to their proposed schedules, they wouldn't be computer companies.

A Translator for Windows

My DOS-based CDs work just fine with my new CD-ROM drive, but I can't get anything to run under Windows. File Manager doesn't even acknowledge the existence of the drive. Help!

Mark Corbin
New York, New York

It sounds like you're missing the MSCDEX.EXE device driver. MSCDEX.EXE is software that acts as a translator between Windows and the CD-ROM drive—Windows doesn't deign to talk to any lowly peripheral directly.

Windows may be snooty, but it's an easy problem to solve: With the appropriate translator, Windows talks to just about anything. Just add a new driver (usually supplied by the device vendor), and Windows treats it as it does any device, whether it's a printer or a CD-ROM drive.

Find the MSCDEX.EXE driver that came with your CD-ROM drive and install it according to the instructions. If you can't find the driver, call the drive maker and say that you need it. If the company doesn't have one, you bought the wrong drive. Return it if you can, and get a drive that supports Windows.

Tube Games

I'm really, really tired of playing my super-high-res PC games on a dinky 14-inch monitor when I have a 30-inch television in the living room. What products would let



you need to buy new games and multimedia titles that support it.

We told you that you'd have to spend some money.

Plans for the Jaguar

I've been hearing good things about the Atari Jaguar, but I'm a little leery because it doesn't come with a CD-ROM drive. Does Atari have plans to come out with one? I'd rather not pay big bucks for a 3DO system, but I like the idea of CD-ROM games.

Jim Smiths
San Jose, California

You're not the only one who'd like to see Atari come out with a CD-ROM drive. A lot of people are excited about the Jaguar's 64-bit technol-

Between The Devil And The Deep Blue Sea.



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me use my TV as a monitor? And do any of them actually work?

Rick Malloy
Mississauga, Ontario

Several products let you enhance your games by running them through a TV instead of a PC monitor, and yes, they do work. Don't set your sights too high, though. A PC monitor is still the best tool for viewing PC output.

Both Advanced Digital Systems and Creative Technology make connectors (the Game Blaster and Creative TVCoder, respectively) that turn VGA output into something you can watch on your TV for around \$150. But remember that a TV set provides lower resolution than a VGA monitor, so text and images may be fuzzy and hard to read. A TV equipped with Super VHS (S-VHS) inputs offers somewhat higher resolution.

If you just want to kick back on the couch and play some games on the tube, these tools certainly let you do it, even if the picture isn't crystal clear. Of course, you'll have to move your computer to your living room. After you cart a system back and forth a couple dozen times, you may be ready to drop \$700 for a 3DO multiplayer and a new set of games.

Multiple Button Madness

I see an awful lot of joysticks in computer stores that have more than two buttons, but most of my games only support buttons A and B. Is there any way to get the other buttons to actually do something? I don't want to pay for buttons on a joystick that I'll never be able to use. Maybe there's a software program available that will let me activate them?

Stephen Lao
San Francisco, Calif.

This is yet another example of the incredible foresight of early computer system developers: There is no standard way for game developers to write programs that support more than two joystick buttons. As a result, any developer who wants to support a multibutton joystick must write directly to the programming interface of such products as ThrustMaster's Flight Control System and CH Products' Flightstick Pro. Since this translates into more work for the programmer, support for sticks of this type is limited primarily to flight sims, where the extra buttons not only add to the realism but are about the only way to keep your butt from getting shot off.

ThrustMaster does currently offer the Weapons Control System, which contains a programmable chip that can emulate key presses on a keyboard, giving those extra buttons new life. CH Products and Kraft are both supposed to be developing similar, programmable joysticks as well.

Of course, Macintoshes already support a variety of joysticks with buttons that can be programmed to do just about anything. See, Apple really does know what it's doing, no matter what anyone says.



Fax, mail, or e-mail your queries to the S.O.S. staff at:

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We review Logitech's new SoundMan sound board, Peter Gabriel's Xplora I, and virtual travel for kids, and give you the lowdown on ten hot multimedia systems.

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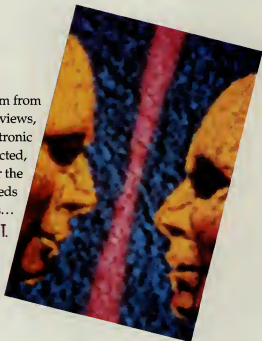
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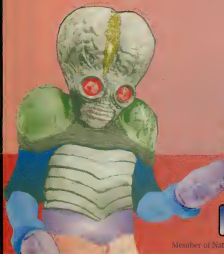


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House Party

Last month, I was thinking about building a virtual room. It still sounds like a good idea, but on second thought, why stop there? Now I want a smart house.

A smart house—or at the very least a fully computerized one—is potentially a lot more useful than a virtual room, and it could be just as much fun.

First, let's get our definitions straight. To my mind, a smart house is one with a centralized computer that can control and communicate with all the electrical outlets, appliances, and lights, no matter where they are located. Each room in the house would have its own motion sensors, microphones, and stereo speakers. Of course, some or all of the rooms in the house would be virtual rooms like the ones I talked about last month ("The Virtual Room," February, page 120), with video-screen covered walls able to recreate any environment you want.

Smart houses aren't a new idea, but most commentators focus on the energy saving, home security, or simple convenience implications. Just like the promoters of business multimedia, these pundits may be missing the point. With a little imagination, you could easily teach a smart house all kinds of cool tricks.

Just for starters, it would quickly learn the preferences of everyone who lives in the house and automatically adjust itself—or its temperature, lighting, what have you—depending on who's in what room when. With the right motion, weight, and optical sensors, it could even distinguish between household members. That way, it could automatically answer incoming phone calls, ask callers who they wished to reach, scan its rooms for the right person to take the call, and then activate the room's speakers and microphones to connect the call. You'd only

have to lift the receiver if you wanted privacy. These are just a few of the interesting things a smart house could do—beyond keeping your electrical bill under control.

But playing games with your house would be even more fun. Just by knowing where you are, it could play all sorts of simple games—like "hot-cold," using warmer and cooler wafts of air to guide you to the right spot. The reverse game, of course, would be hide and seek. The house would cover its collective eyes while you went into hiding, and then try to find you by listening (through one room's microphones) for hints. The score would be based on the smallest number of guesses it takes to find you, provided the house doesn't cheat.

Your smart house would make a top-notch party host, too. Try dancing to music that moves from room to room. Maybe it could pull the party around the house in a sort of rock 'n' roll samba line. And the evening would end with all the dancers boogying onto the front lawn, just like the end of a Disney production when all players exit stage right.

Speaking of musicals, how about turning your house into a musical instrument? I admit it's far-fetched, but if it isn't impossible, I say try it. For instance, you could have the house play notes in pitches that are a function of your side-to-side location in the room, with the amplitude depending upon your forward/backward position in the room.

Multiple people could jam together in the same room simply by moving around, and

the house would automatically blend and augment their voices. Think what it would sound like when people started to dance. Of course, you could record the whole thing for playback later and give your musicians a rest.

And with a smart house, you could have one heckuva murder-mystery dinner party. (If you haven't hosted one of these yet, I highly recommend it.) The idea is that all the people at your party are characters in a mystery story, and through an elaborate question-and-answer session you find out which guest is the murderer. Your house could act as the narrator of this elaborate story, adding the appropriate sound effects, and even directing your guests to other

rooms. The implications are marvelous.

But games for grown-ups are just the beginning. You might feel funny talking and playing games with your house, but your children won't have any hang-ups about it. A smart house could be a great babysitter, companion, and entertaining storyteller for your kids.

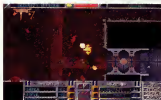
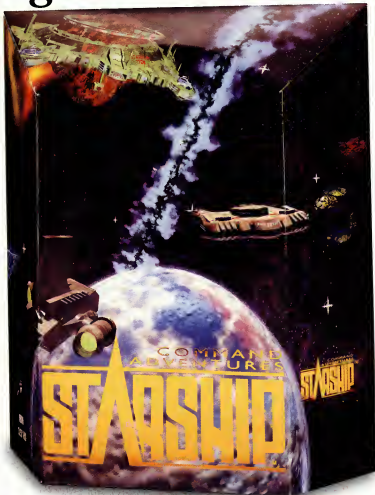
It may take a few years, but sooner or later our houses will be a lot more than stupid, inanimate containers. They'll be intelligent and active family members who can remind, assure, entertain, protect, and even play with us. I can't wait.

Nolan K. Bushnell invented Pong, founded Atari, and created Chuck E. Cheese. He is currently chairman of Octus, in San Diego, California, the maker of PTA software. Write him c/o Electronic Entertainment.



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